



KingMakers
IAS Academy

Good Morning Test

(GMT)

Prelims Compilation

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KingMakers IAS Academy

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POLITY AND GOVERNANCE	1
1. Judicial Appointments in India	1
2. Lokpal	1
3. Constitutional Morality	2
4. Central Information Commission	3
5. Preventive detention.....	3
6. Ladakh's Administrative Status.....	4
7. SIR (Special Intensive Revision) 2.0.....	5
8. Surrogacy (Regulation) Act, 2021	5
9. The Union Public Service Commission (UPSC).....	6
10. Alternative Dispute Resolution.....	7
11. Siddi community	7
SCHEMES	8
12. PM Surya Ghar Muft Bijli Yojana	8
13. PM-KUSUM.....	8
14. PM-SHRI.....	9
15. Sugamya Bharat Abhiyan	9
16. PM VIKAS Scheme.....	10
17. Government Initiatives for Elderly in India	10
18. Paramparagat Krishi Vikas Yojana (PKVY)	11
19. UMEED portal.....	12
20. LEAPS 2025	12
21. UDISE Plus.....	13
SCIENCE & TECHNOLOGY	13
22. Geoengineering	13
23. Role of Technology in Disaster Management	14
24. 3D sensors.....	15
25. 'Quantum tunnelling'	15
26. Metal - Organic Frameworks (MOFs).....	16
27. Nuclear Power Generation in India.....	17
28. Sahyog portal	17
29. Diethylene Glycol	18
30. Oral Rehydration Solutions (ORS).....	18
31. Nobel Prize in Physiology or Medicine.....	19
32. Non-communicable diseases	19
33. Quasar OJ 287	20
34. Interstellar Mapping and Acceleration Probe (IMAP).....	21
35. Supermoon.....	21
36. PUNCH Mission	22
37. India's Advanced Medium Combat Aircraft (AMCA).....	22
38. INS Androth	23
39. 'Saksham'	23
40. Poseidon.....	23
41. Tele MANAS	24
ENVIRONMENT AND AGRICULTURE	24
42. Carbon Capture and Storage (CCS)	24
43. National Green Hydrogen Mission	25
44. Adaptation Gap Report 2025	26
45. Wildlife Trust of India (WTI)	26
46. Global Action Plan for the Prevention and Control of Non-Communicable Diseases (NCD GAP).....	26
47. Graded Response Action Plan.....	27

48. Global Forest Resources Assessment (GFRA) 2025	28
49. IMO's Global Shipping Carbon Tax	28
50. World Heritage Outlook	29
51. Dark Sky Reserve	29
52. World Heritage Outlook	30
53. Conventional on Biological Diversity	30
54. IUCN's list of natural World Heritage sites	31
55. Araneus nox	31
56. Global Tipping Points	32
57. Climate Models	32
58. North - South Carbon Market	33
59. Green Crackers	33
60. Lead Pollution	34
61. Blue Flag Certified beaches in India	34
62. Cryobanking	35
63. Red Sanders	36
64. Wombats	36
65. Painted stork	37
66. Dragonfly survey	37
67. Snow leopards	38
68. Green Sea Turtle	38
69. Microplastics	39
70. IUCN World Conservation Congress, 2025	40
71. 'National Pulses Mission'	40
72. India's Dairy Sector	41
73. 'World Cotton Day' 2025	42
74. Indi and Puliyanakudi Limes	42
75. Nutrient Based Subsidy Scheme	43
76. International Pepper Community	43
ECONOMY	44
77. Cryptocurrency Policy & Stablecoins	44
78. Co-lending	44
79. RTGS and NEFT	45
80. The Fair and Remunerative Price (FRP)	46
81. Rupee Depreciation	46
82. Economic Recession	47
83. India's inflation targeting framework	47
84. Central Bank Digital Currencies (CBDCs)	48
85. The Remission of Duties and Taxes on Exported Products (RoDTEP) incentive scheme	48
86. Foreign Currency Settlement System	49
87. Unified Markets Interface	49
88. Comprehensive Economic and Trade Agreement (CETA)	50
89. India's Exports Trend	51
90. Payments Regulatory Board	52
91. Trade deficit	52
92. Import Substitution (IS) subsidies	53
93. National Manufacturing Mission	54
94. The Sevilla Forum on Debt	54
95. World Trade Organization (WTO)	55
96. Asia-Pacific Economic Cooperation (APEC)	56
97. State Mining Readiness Index	57
98. Rangarajan poverty line	57
99. Foreign Portfolio Investment (FPI)	58
100. The National Critical Mineral Stockpile (NCMS)	58
INTERNATIONAL RELATIONS	59

101. The Plutonium Management and Disposition Agreement (PMDA)	59
102. International Solar Alliance	59
103. India-Australia Renewable Energy Partnership (REP)	60
104. UN convention against terror financing	61
105. UN Human Rights Council	61
106. ASEAN	62
107. Line of Actual Control (LAC)	62
108. India–Middle East–Europe Economic Corridor	63
109. India-Singapore @ 60	64
110. 'Samudra Shakti – 2025'	64
111. Exercises in News	65
112. EXERCISE KONKAN 2025	65
113. JAIMEX – 2025	66
114. Polar Silk Route	66
GEOGRAPHY & MAPS	66
115. Amazon's 'Flying Rivers'	66
116. Mig La Pass	67
117. Gomti river	68
118. The Sawalkote project	69
119. Baratang Mud Volcano	69
120. Cyclones in the Bay of Bengal	70
121. Southern Ocean 'Thermal Time Bomb'	70
122. The Southwest Monsoon Withdrawal	71
123. Cloud-seeding	71
124. 7. Particulate Matter (PM) 2.5	72
125. Mount Fuji	73
HISTORY - ART AND CULTURE	73
126. Freedom Fighters	73
127. Shri Lal Bahadur Shastri	74
128. Visvesvaraya, Muthulakshmi and Mahalanobis	74
129. Sardar Vallabhbhai Patel	75
130. Classical Languages of India	75
131. Dogri language	76
132. Chhath Puja	76
133. Nobel Prize in Literature 2025	77
134. INTERNATIONAL DAY OF NON-VIOLENCE	77
135. Assam's GI farm basket	78
PLACES IN INEWS	79
136. Rafah crossing	79
137. Campi Flegrei volcano	79
138. Durand Line	80
139. Conflict areas in South China Sea	80
140. Tuvalu	81
MISCELLANEOUS	81
141. The Kenton R. Miller Award	81
142. Maldives' parent-to-child triple elimination of diseases	82
143. The Sakharov Prize	82
144. Rashtriya Vigyan Puraskar 2025	83

POLITY AND GOVERNANCE

1. Judicial Appointments in India

1. Consider the following statements with respect to the Judicial appointments in India:

1. The Constitution defines the role of the judiciary in judicial appointments.
2. The collegium recommends appointments and transfers of judges in the Supreme Court only.
3. The government can return the recommendations of the collegium only once for reconsideration but not necessarily abide by it.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (d) None

Explanation:

In NEWS: Supreme Court Collegium's shift in Justice Sreedharan's appointment raises concerns over Executive influence in judicial independence

Appointment of Judges in India:

The Constitution of India provides for the appointment of judges to the Supreme Court and High Courts. According to:

- Article 124(2): Appointment of Supreme Court judges by the President after consultation with such judges of the Supreme Court and High Courts as deemed necessary.
- Article 217: Appointment of High Court judges by the President after consultation with the Chief Justice of India (CJI), the Governor of the State, and the Chief Justice of the High Court.

However, **the Constitution does not clearly define the process of consultation or the role of the judiciary in appointments**, leading to interpretations and evolving practices. **Hence statement 1 is incorrect.**

Emergence of the Collegium System: Landmark Supreme Court Judgments

First Judges Case (1981): S.P. Gupta vs Union of India

The Court held that the consultation with the Chief Justice of India was not binding on the President, giving primacy to the executive in appointments.

Second Judges Case (1993): Supreme Court Advocates-on-Record Association vs Union of India

The Court overruled the First Judges Case, holding that the "consultation" with the Chief Justice of India means concurrence, giving the judiciary primacy in the appointment of judges. This led to the creation of the Collegium — a forum of the Chief Justice of India and the four senior-most Supreme Court judges to recommend appointments.

Third Judges Case (1998): In re Presidential Reference

The Court expanded the Collegium to include the CJI and the four senior-most judges (instead of two), formalizing the process.

Collegium:

- It recommends appointments and transfers of judges in the Supreme Court and High Courts. **Hence statement 2 is incorrect.**
- The recommendations are sent to the Central Government, which usually forwards them to the President for approval.
- The government has limited power to reject recommendations, generally returning them once for reconsideration but must abide by the Collegium if recommendations are reiterated. **Hence statement 3 is incorrect.**

PYQ REFERENCE: (2012)

Q. What is the provision to safeguard the autonomy of the Supreme Court of India?

1. While appointing the Supreme Court Judges, the President of India has to consult the Chief Justice of India.
2. The Supreme Court Judges can be removed by the Chief Justice of India only.
3. The salaries of the Judges are charged on the Consolidated Fund of India to which the legislature does not have to vote.
4. All appointments of officers and staffs of the Supreme Court of India are made by the Government only after consulting the Chief Justice of India.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 3 and 4 only
- (c) 4 only
- (d) 1, 2, 3 and 4

Source: <https://www.thehindu.com/news/national/supreme-court-collegiums-shift-in-justice-sreedharans-appointment-raises-concerns-over-executive-influence-in-judicial-independence/article70188965.ece>

2. Lokpal

2. Which of the following is/are powers of the Lokpal under the Lokpal and Lokayuktas Act, 2013?

1. Lokpal can inquire into and investigate allegations of corruption against public servants, including directing and supervising the CBI in such cases.
2. It can grant sanction for prosecution and file cases before Special Courts under the Prevention of Corruption Act.
3. Lokpal submits annual reports to the President, which are laid before Parliament.

Select the correct answer:

- (a) 1 and 2 only
- (b) 2 only
- (c) 1, 2, and 3
- (d) 1 and 3 only

Answer: (c) 1, 2, and 3

Explanation:

In NEWS: Sharp reduction in number of complaints received by Lokpal

1. Introduction

- **Lokpal:** Anti-corruption authority at the **Central Government** level.
- **Lokayukta:** Anti-corruption authority at the **State Government** level.
- Established under: **The Lokpal and Lokayuktas Act, 2013** (Central Act).

Objective: Investigate and prosecute public servants involved in corruption, reduce maladministration, and strengthen accountability in governance.

2. Composition

Lokpal (Central)

- Chairperson + up to 8 members.
 - At least **50% judicial members**.
- Includes members for **PM, Ministers, MPs, and Group A officers**.
- **Appointment Committee:** PM, Speaker of Lok Sabha, Leader of Opposition, CJI, and an eminent jurist.

Lokayukta (State)

- Each state enacts its **own Lokayukta Act**.
- Chairperson usually a **retired High Court or Supreme Court judge**. Members may include administrative and judicial officials.
- Appointed by **Governor in consultation with Chief Minister and opposition leaders**.

3. Jurisdiction

Authority	Who it can investigate
Lokpal	PM (with certain limitations), Union Ministers, MPs, Group A officers of Central Government
Lokayukta	Chief Minister, State Ministers, state government officials

Exclusions: Judiciary (except in very specific cases, e.g., under separate procedures).

4. Powers and Functions

Inquiry and Investigation:

Lokpal can inquire into and investigate allegations of corruption against public servants, including directing and supervising the CBI in such cases.

Prosecution:

It can grant sanction for prosecution and file cases before Special Courts under the Prevention of Corruption Act.

Civil Court Powers:

The Lokpal has powers of a civil court — to summon witnesses, examine evidence, and requisition public records.

Attachment and Confiscation:

It can recommend attachment and confiscation of assets acquired through corrupt means.

Disciplinary Action:

Lokpal may recommend suspension, transfer, or other disciplinary measures against accused officials.

Oversight of CBI:

It exercises supervision and control over the CBI in matters referred to it and can monitor investigation progress.

Frivolous Complaints:

Lokpal can dismiss false or vexatious complaints and initiate action against malicious complainants.

Rule-Making Power:

It can frame rules and regulations for its functioning, subject to government approval.

Reporting:

Lokpal submits annual reports to the President, which are laid before Parliament.

PYQ REFERENCE:

Q. Under which act were the Lokpal and Lokayuktas established? (2016)

- Prevention of Corruption Act
- Lokpal and Lokayuktas Act, 2013
- Right to Information Act
- Public Grievances Redressal Act

Source: <https://www.thehindu.com/news/national/sharp-decline-in-complaints-received-by-lokpal/article70201717.ece>

3. Constitutional Morality

3. Which among the following abide to the core elements of Constitutional Morality?

- Supremacy of the Constitution and law over arbitrary actions
- Protection of individual rights and equality before law

- Promotes unity, tolerance, and respect for diversity
- Powers of all organs are derived from and limited by the Constitution
- Respect for roles and limitations of constitutional bodies

Select the correct answer using the code given below:

- 1, 2 and 5 only
- 1, 3 and 4 only
- 2 and 5 only
- 1, 2, 3, 4 and 5

Answer: (d) 1, 2, 3, 4 and 5

Explanation:

In NEWS: The contours of constitutional morality

Constitutional Morality:

- Constitutional morality refers to the **adherence to the core principles, values, and spirit of the Constitution** while exercising power and performing duties in public life.
- It requires that citizens and institutions act in harmony with constitutional ideals — such as **liberty, equality, fraternity, and justice** — even when they conflict with popular opinion or social norms.
- The term was first popularized by **Dr. B.R. Ambedkar**.
- It implies **governing according to the Constitution**, not merely by law or majority will.
- It demands **respect for the rule of law, protection of fundamental rights, independence of institutions, and checks and balances**.
- It guides how **State functionaries, legislature, and citizens** should behave in a constitutional democracy.

Core Elements of Constitutional Morality:

- Rule of Law:** Supremacy of the Constitution and law over arbitrary actions
- Liberty & Equality:** Protection of individual rights and equality before law
- Fraternity:** Promotes unity, tolerance, and respect for diversity
- Constitutional Supremacy:** Powers of all organs are derived from and limited by the Constitution
- Institutional Integrity:** Respect for roles and limitations of constitutional bodies
- Accountability & Transparency:** Ensuring democratic responsibility in governance

Hence all the statements are correct.

PYQ REFERENCE:

Q. Which of the following provisions of the Constitution of India have a bearing on Education?

- Directive Principles of State Policy
- Rural and Urban Local Bodies
- Fifth Schedule
- Sixth Schedule
- Seventh Schedule

Select the correct answer using the codes given below:

- 1 and 2 only
- 3, 4 and 5 only
- 1, 2 and 5 only
- 1, 2, 3, 4 and 5

Source: <https://www.thehindu.com/opinion/lead/the-contours-of-constitutional-morality/article70205715.ece>

4. Central Information Commission

4. With reference to the "Central Information Commission", Consider the following statements.

1. The Commission includes one Chief Information Commissioner (CIC) and not more than ten Information Commissioners (IC).
2. The person appointed as the CIC/IC must be a Member of Parliament or Member of the Legislature of any State or Union Territory.
3. For appointment to the CIC/IC, the Committee consists of the Prime Minister, Leader of the Opposition in the Lok Sabha and one Union Cabinet Minister to be nominated by the Prime Minister.
4. The CIC shall not have any fixed tenure, S/he holds the office during the pleasure of the President.

Which of the statements given above is/are correct?

- (a) 1 and 4
- (b) 1 and 3
- (c) 2, 3 and 4
- (d) 3 only

Answer: (b) 1 and 3

Explanation:

In NEWS: CIC appointments in 'two or three' weeks, Centre tells top court

Central Information Commission:

How is the Central Information Commission constituted?

- Central Information Commission to be constituted by the Central Government through a Gazette Notification.
- The Commission includes 1 Chief Information Commissioner (CIC) and not more than 10 Information Commissioners (IC) who will be appointed by the President of India. **Hence statement 1 is correct.**
- Oath of Office will be administered by the President of India according to the form set out in the First Schedule.
- The Commission shall have its Headquarters in Delhi. Other offices may be established in other parts of the country with the approval of the Central Government.
- The Commission will exercise its powers without being subjected to directions by any other authority.

What is the eligibility criteria and what is the process of appointment of CIC/IC?

- Candidates for CIC/IC must be persons of eminence in public life with wide knowledge and experience in law, science and technology, social service, management, journalism, mass media or administration and governance.
- CIC/IC shall not be a Member of Parliament or Member of the Legislature of any State or Union Territory. He shall not hold any other office of profit or connected with any political party or carrying on any business or pursuing any profession. **Hence statement 2 is incorrect.**
- The Appointment Committee includes the Prime Minister (Chair), Leader of the Opposition in the Lok Sabha and one Union Cabinet Minister to be nominated by the Prime Minister. **Hence statement 3 is correct.**

What is the term of office and other service conditions of CIC?

- CIC shall be appointed for a term of 5 years from date on which he enters upon his office or till he attains the age of 65 years, whichever is earlier. **Hence statement 4 is incorrect.**
- (the Chief Information Commissioner (CIC) does not hold office "during the pleasure of the President"; the CIC has a fixed term and cannot be removed at the President's will)**
- CIC is not eligible for reappointment.
- Salary will be the same as that of the Chief Election Commissioner. This will not be varied to the disadvantage of the CIC during service.

PYQ REFERENCE:

Q. The Central Information Commission was established under which Act? (2021)

- (a) Right to Information Act, 2005
- (b) Freedom of Information Act, 2002
- (c) Transparency in Government Act, 2006
- (d) Public Disclosure Act, 2004

Source: <https://www.thehindu.com/news/national/chief-information-commissioner-appointments-in-two-or-three-weeks-centre-tells-sc/article70209501.ece>

5. Preventive detention

5. Which among the following is/are the constitutional mandate under Article 22 of the Indian constitution?

1. Grounds of detention must be communicated, though some facts may be withheld if disclosure is against public interest.
2. There must be an Advisory Board review if detention exceeds 3 months.
3. The detainee has a right to make a representation against the detention.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

In NEWS: The preventive detention regime needs reform; it should not be used as a routine administrative tool

Preventive Detention

- **Preventive detention** = detaining a person *without trial or conviction*, based on suspicion that they *may* commit a future offence or disturb public order.
- It is **preventive**, not punitive: the intent is to stop harm before it happens, not punish an action already done.

Constitutional & Legal Basis in India

- Article 22(3)-(7) of the Indian Constitution allows laws authorizing preventive detention.
- Under Article 22, **ordinary safeguards** (like being informed of grounds of arrest, consulting a lawyer, being produced before a magistrate in 24 hours) **do not fully apply** to preventive detention.
- But the Constitution mandates that:
 1. Grounds of detention **must be communicated**, though some facts may be withheld if disclosure is against public interest.
 2. There must be an **Advisory Board** review if detention exceeds 3 months.
 3. The detainee has a **right to make a representation** against the detention.

Hence all the statements are correct.

Historical & Judicial Evolution

- In **A. K. Gopalan v. State of Madras (1950)**, preventive detention was upheld; limitation was considered only procedural (not substantive).
- Over time, the Supreme Court has placed **restrictions and safeguards** to prevent arbitrary use.
- Recent judgments emphasize that **preventive detention must not bypass normal criminal justice**, must satisfy due process, and cannot be used as a substitute to cancel bail.

- The Court has also stressed that **the detaining authority must provide all materials relied upon** so that the detainee can make an effective representation.

Issues & Risks

- **Violation of liberty:** It allows deprivation of liberty without conviction.
- **Presumption inverted:** The detainee may be treated as guilty in effect.
- **Misuse & abuse:** Broad, vague laws can lead to political or arbitrary detention.
- **Lack of full judicial oversight:** Courts usually review only procedural compliance, not the *necessity* of detention.
- **Colonial legacy:** Many preventive detention laws date from colonial times and may not suit a rights-sensitive democracy.

PYQ REFERENCE: (2023)

Q. Consider the following statements:

1. According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
2. The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
3. According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

How many of the above statements are correct?

- (a) Only one
(b) Only two
(c) All three
(d) None

Source: <https://www.thehindu.com/opinion/lead/the-danger-of-an-unchecked-pre-crime-framework/article70140459.ece#:~:text=Dilemma%20of%20the%20pre%2Dcrime&text=He%20is%20presumed%20guilty%2C%20denied.of%20innocence%20and%20judicial%20scrutiny>

6. Ladakh's Administrative Status

6. With reference to Indian polity, consider the following statements:

1. Article 371 of the constitution of India provides special administrative provisions for Ladakh and Jammu and Kashmir to protect local customs, laws, and interests.
2. Currently, Ladakh acts as a Union Territory (UT) without a legislature which is administered by a Lieutenant Governor appointed by the President of India.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:

In NEWS: As talks on Ladakh resume, Centre offers special provisions under Article 371

BACKGROUND

1. Ladakh's Current Administrative Status

- Ladakh became a **Union Territory (UT) without legislature on October 31, 2019**, following the **Jammu and Kashmir Reorganisation Act, 2019**.
- Earlier, it was a part of the **erstwhile State of Jammu & Kashmir**.
- Ladakh has **two districts: Leh and Kargil**.
- Administered by a **Lieutenant Governor** appointed by the President of India. **Hence statement 2 is correct.**

2. Reason for Statehood and Sixth Schedule Demands

- Post-2019, **absence of legislative representation and local decision-making powers** led to concerns over:
 - **Land rights** of locals.
 - **Employment reservation** for residents.
 - **Protection of tribal culture and ecology** in a fragile Himalayan region.
- Civil society groups — **Leh Apex Body (LAB)** and **Kargil Democratic Alliance (KDA)** — spearhead the movement.
- They demand:
 - **Full Statehood** for Ladakh, or
 - **Sixth Schedule inclusion** for local autonomy.

3. Recent Context (2025)

- Protests turned violent in Leh; **four people killed**, including a **Kargil war veteran**.
- MHA offered to explore **Article 371-type provisions** as a possible middle path.
- LAB and KDA rejected this, insisting on **Sixth Schedule recognition**.
- They also demanded **release of Sonam Wangchuk** and **compensation for victims**.

CONSTITUTIONAL CONTEXT

A. Article 371 (Part XXI – Temporary, Transitional and Special Provisions)

- Provides **special administrative provisions** for certain States to protect **local customs, laws, and interests**.
- Applicable to **12 States**: Nagaland, Assam, Manipur, Mizoram, Maharashtra, Gujarat, Andhra Pradesh, Telangana, Arunachal Pradesh, Goa, Sikkim, Karnataka.
- **Ladakh and Jammu & Kashmir** are governed under **Articles 239 and 239A**, not Article 371. **Hence statement 1 is incorrect.**
- Example:
 - **Article 371A (Nagaland)** – Protection of Naga religious and social practices, customary law, and ownership of land/resources.
 - **Article 371G (Mizoram)** – Similar protection for Mizo customary law and practices.
 - **Article 371D (Andhra Pradesh)** – Equitable opportunities in public employment and education.

Relevance to Ladakh:

Article 371-type special provisions could protect **tribal rights, land, and local governance**, but **without legislative autonomy** like the Sixth Schedule.

B. Sixth Schedule (Articles 244(2) and 275(1))

- Applies to **Assam, Meghalaya, Mizoram, Tripura**.
- Provides for **Autonomous District Councils (ADCs)** — elected bodies with **legislative, administrative, and financial powers** over:
 - Land management
 - Forest use
 - Agriculture
 - Village administration
 - Cultural practices

Relevance to Ladakh:

Around **97% of Ladakh's population** is tribal; inclusion could provide **self-governance, land protection, and cultural preservation**.

PYQ REFERENCE: (2025)

Q. Consider the following statements regarding Scheduled Areas under the Fifth Schedule of the Indian Constitution:

- I. If an area in a State is declared as a Scheduled Area under the Fifth Schedule, the State Government loses its executive power, and a local body assumes total administration of such areas.
- II. The Union Government can take over total administration of such areas under certain circumstances on the recommendation of the Governor.

Which of the above statements is/are correct?

- (a) I only
(b) II only
(c) Both I and II
(d) Neither I nor II

Source: <https://www.thehindu.com/news/national/mha-suggests-special-provisions-for-ladakh-under-article-371-of-constitution/article70190769.ece>

7. SIR (Special Intensive Revision) 2.0

7. With reference to the Special Intensive Revision (SIR), consider the following statements

1. It is conducted by the Election Commission of India under the powers granted by Article 324 of the Constitution.
2. It involves inclusion of new voters and deletion of duplicates or deceased persons from the rolls.
3. It is explicitly mentioned and defined under the Registration of Electors Rules, 1960.

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: ECI announces phase 2 of Special Intensive Revision of electoral rolls in 12 States

- Bihar was covered in **Phase 1** of the SIR; Phase 2 includes 12 States/UTs like UP, WB, TN, Kerala, Gujarat, etc.

The Special Intensive Revision (SIR):

- The Special Intensive Revision (SIR) of electoral rolls is a strategic exercise by the **Election Commission of India (ECI)** aimed at thoroughly updating, verifying and correcting the voter lists across India.
- The objective is to include every eligible citizen (18+ years) and to remove duplicates, deceased persons, ineligible entries and correct errors like wrong names or addresses. **Hence statement 2 is correct.**
- It is not simply a summary revision but combines features of a full enumeration (intensive revision) and summary updates, hence the nomenclature "Special Intensive

Legal Framework

The legal and constitutional basis for SIR is critical for understanding its authority and challenges:

- **Article 324 (1):** Grants the ECI superintendence, direction and control of elections to Parliament and State Legislatures. **Hence statement 1 is correct.**
- **Article 326:** Guarantees adult suffrage to all citizens aged 18+ for elections to Lok Sabha and State Assemblies.
- **Representation of the People Act, 1950, Section 16 and 19:** Sets out criteria for voter eligibility (citizen, 18+, ordinary resident). Section 21(3) empowers the ECI to order special roll revision.
- **Registration of Electors Rules, 1960:** Specifies procedures for enrolment, revision, etc. Some legal commentators note that the term "Special Intensive Revision" itself is not explicitly present in the Rulebook, raising questions of nomenclature and procedural clarity. **Hence statement 3 is Incorrect.**

PYQ REFERENCE:

Q. . Consider the following statements: (2020)

1. According to the Constitution of India a person who is eligible to vote can be made a minister in a State for six months even if he/she is not a member of the Legislature of that State.
2. According to the Representation of People Act, 1951, a person convicted of a criminal offense and sentenced to imprisonment for five years is permanently disqualified from contesting an election even after his release from prison.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Source: <https://www.thehindu.com/elections/election-commission-of-india-press-conference-special-intensive-revision-of-electoral-rolls-october-27-2025/article70208116.ece>

8. Surrogacy (Regulation) Act, 2021

8. With reference to the Surrogacy (Regulation) Act, 2021, consider the following statements:

1. The Act allows only altruistic surrogacy and prohibits commercial surrogacy.
2. Single parents and live-in partners are eligible to commission surrogacy under this Act.
3. The surrogate mother can act as a surrogate only once in her lifetime.
4. The Act provides for the establishment of National and State Surrogacy Boards for regulation.

Which of the statements given above are correct?

- (a) 1 and 3 only
(b) 1, 3 and 4 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Answer: (b) 1, 3 and 4 only

Explanation:

In NEWS: Retrospective age limits under surrogacy law violate reproductive autonomy: SC

Surrogacy (Regulation) Act, 2021:

Objective:

To regulate surrogacy services and prohibit commercial surrogacy in India, allowing only altruistic surrogacy. **Hence statement 1 is correct.**

Eligibility:

- Only Indian married couples (married for at least 5 years) with infertility issues are eligible.
- The woman must be aged 25–35 years, and the man 26–40 years.
- Single parents, live-in partners, and same-sex couples are excluded.

Hence statement 2 is incorrect.

Altruistic Surrogacy:

Surrogacy is allowed only if no monetary compensation is given to the surrogate mother except for medical expenses and insurance coverage.

Surrogate Mother Criteria:

- Must be a close relative of the intending couple.
- Age between 25 and 35 years.
- Can act as a surrogate only once in her lifetime. **Hence statement 3 is correct.**

Regulatory Authorities:

The Act provides for the establishment of the National Surrogacy Board and State Surrogacy Boards to oversee and regulate surrogacy clinics and procedures. **Hence statement 4 is correct.**

Prohibition:

- Commercial surrogacy is banned.
- Surrogacy for foreign nationals and single parents is not allowed.
- Surrogacy done for any purpose other than to fulfill the desire of a couple to have a child is prohibited.

Legal Parenthood:

The intending couple is considered the legal parents of the child born through surrogacy.

Recent Supreme Court Ruling:

The Supreme Court ruled that the age limits in the Act will not apply retrospectively to couples who had already begun surrogacy procedures before the Act came into force.

Source: <https://indianexpress.com/article/explained/explained-law/sc-age-limit-surrogacy-law-10298933/>

[9. The Union Public Service Commission \(UPSC\)](#)

9. With reference to the Union Public Service Commission (UPSC), Consider the following statements:

1. It is a constitutional body established by the President under the provisions mentioned in the constitution of India.
2. It submits an annual report to the Prime Minister, who in turn lays it before both Houses of Parliament.
3. The advice tendered by the UPSC is mandatory for the government to accept and implement its recommendations.
4. Members of the UPSC, including the Chairman, can be removed only by the President of India, and only on the grounds of proven misbehavior, following an inquiry by the Supreme Court.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Answer: (b) Only two

Explanation:

In NEWS: A 100-year journey as the guardian of meritocracy

Union Public Service Commission (UPSC)

Constitutional Status

- **Article 315 to 323** of the Constitution deals with UPSC and State PSCs.
- UPSC is a **constitutional body**, ensuring impartial recruitment and services regulation.
- **Article 315:** Establishment of UPSC for the Union and SPSC for States. **Hence statement 1 is correct.**
- **Article 316:** Appointment & term of members (Chairman appointed by President, tenure – 6 years or until age 65).
- **Article 317:** Removal and suspension by President (on SC inquiry).
- **Article 318:** Power to regulate conditions of service of members.
- **Article 319:** Members ineligible for reappointment to UPSC/SPSC, but eligible for other posts.
- **Article 320:** Functions of UPSC.
- **Article 321–323:** Extension of functions, expenses, and reports.

Composition

- Consists of a **Chairman** and other **members** (no fixed number; determined by President).
- Half of the members must have held **government office for at least 10 years**.
- Members hold office for **6 years** or until age **65**, whichever is earlier.

Functions of UPSC

1. **Recruitment to All-India Services, Central Services, and Central posts.**
 - Conducts exams: Civil Services Exam, IFS, NDA, CDS, CAPF, etc.
2. **Advisory Role:**
 - On recruitment methods, promotions, transfers.
 - On disciplinary matters affecting civil servants.
 - On claims for costs incurred by government servants in legal proceedings.
 - On claims relating to pension/gratuity.
3. **Reports:**
 - Submits an annual report to the President, laid before Parliament. **Hence statement 2 is incorrect.**
4. **Nature of Role: Advisory**, not binding. The government can accept or reject UPSC's advice, but usually follows it to maintain fairness. **Hence statement 3 is incorrect.**

Independence & Safeguards

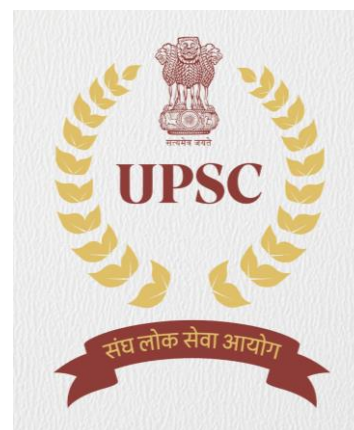
- Conditions of service of Chairman/members fixed by President, but cannot be varied to their disadvantage.
- Removal only by the President on grounds of misbehavior, after the Supreme Court inquiry. **Hence statement 4 is correct.**
- Expenses charged on **Consolidated Fund of India**, not subject to parliamentary vote.

Significance

- Ensures **merit-based recruitment** and neutrality in public services.
- Protects **civil servants from political influence**.
- Contributes to maintaining the **integrity and efficiency** of Indian bureaucracy.

Limitations

- UPSC's role is **advisory only**, not binding.
- The government can bypass advice (though rarely).
- Not consulted on certain temporary, lower-level or specialized posts.



PYQ REFERENCE: (2023)

Q. Consider the following organizations/bodies in India:

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above constitutional bodies?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Source: <https://www.thehindu.com/opinion/lead/a-100-year-journey-as-the-guardian-of-meritocracy/article70113906.ece>

10. Alternative Dispute Resolution

10. With reference to Indian polity, consider the following Articles of the Indian constitution:

1. Article 39A
2. Article 14
3. Article 21

How many of the above articles give constitutional basis to Alternative Dispute Resolution (ADR) in India?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (c) All three

Explanation:

In NEWS: India's justice system faces significant challenges, including access, delays, and accountability, with over 4.57 crore pending cases, and High Courts and district courts experiencing heavy vacancy rates and workloads.

Alternative Dispute Resolution (ADR):

- **Alternative Dispute Resolution (ADR)** refers to methods of resolving disputes **outside** the traditional court litigation process.
- Common forms include **arbitration, mediation, conciliation, negotiation, Lok Adalats**, etc.
- ADR aims to provide **faster, less expensive, informal, and flexible** dispute resolution routes compared to protracted litigation.

Constitutional & Legal Basis in India:

- The **constitutional basis** of ADR in India is derived from **Article 39A** (access to justice) and the principles of **equality (Article 14)** and **right to life and liberty (Article 21)**. **Hence all the statements are correct.**
- The **Directive Principles of State Policy (DPSPs)** encourage the State to ensure justice and reduce court burdens through alternative means.
- **Section 89 of the Code of Civil Procedure (CPC), 1908**, empowers courts to refer disputes to ADR mechanisms if settlement appears possible.
- The **Arbitration and Conciliation Act, 1996** (as amended) provides the statutory framework for **arbitration and conciliation** in India.
- The **Legal Services Authorities Act, 1987** institutionalised **Lok Adalats** as part of the legal aid system.

Importance & Benefits of ADR for Indian Judiciary:

- ADR ensures **speedy, cost-effective, and informal** resolution of disputes, reducing judicial pendency.
- ADR processes promote **confidentiality, flexibility, and voluntary participation** by disputing parties.
- ADR is particularly effective in **commercial, family, and community disputes** where maintaining relationships is crucial.
- Awards passed by **Lok Adalats** are **binding and final**, having the same effect as a **civil court decree**.

Challenges & Criticisms:

- **Court-annexed mediation centres** have been established in many High Courts and district courts to encourage early settlements.
- The **Supreme Court of India** and various High Courts have repeatedly emphasised the need to expand ADR to address the huge backlog of cases.
- ADR aligns with India's vision of "**access to justice for all**", especially for **marginalised and economically weaker sections**.
- Major challenges to ADR include **low awareness, lack of trained mediators/arbitrators, and power imbalance** between parties.
- ADR cannot replace courts entirely; **public law and criminal cases** generally fall outside its scope.

PYQ REFERENCE: (2024)

Q. As per Article 368 of the Constitution of India, the Parliament may amend any provision of the Constitution by way of:

1. Addition
2. Variation
3. Repeal

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source: [https://www.thehindu.com/news/national/why-is-adr-crucial-for-indias-](https://www.thehindu.com/news/national/why-is-adr-crucial-for-indias-courts/article70127894.ece#:~:text=The%20constitutional%20basis%20of%20ADR%20in%20India%20is%20enshrined%20in,Code%20of%20Civil%20Procedure%2C%201908.)

[courts/article70127894.ece#:~:text=The%20constitutional%20basis%20of%20ADR%20in%20India%20is%20enshrined%20in,Code%20of%20Civil%20Procedure%2C%201908.](https://www.thehindu.com/news/national/why-is-adr-crucial-for-indias-courts/article70127894.ece#:~:text=The%20constitutional%20basis%20of%20ADR%20in%20India%20is%20enshrined%20in,Code%20of%20Civil%20Procedure%2C%201908.)

11. Siddi community

11. Which of the following tribal communities in India is believed to have migrated from East Africa and is currently listed under the Particularly Vulnerable Tribal Groups (PVTGs) in India?

- (a) Irula
- (b) Siddi
- (c) Chenchu
- (d) Birhor

Answer: (b) Siddi

Explanation:

In NEWS: President Droupadi Murmu Urges Tribal Community To Pursue Education As A Means Of Empowerment & Progress

Siddi Community:

- The **Siddi community** in India traces its **ancestry to East African** people who arrived in the Indian subcontinent centuries ago through trade, slavery, and as mercenaries.
- Despite their African roots, the Siddis have **assimilated into Indian society**, adopting local languages, religions, and customs.
- The Siddi population is primarily found in **Gujarat, Karnataka, Maharashtra, and a few parts of Andhra Pradesh and Telangana**.
- In Gujarat, the Siddis are largely concentrated in districts like **Junagadh and Gir Somnath**.
- The Siddis have a rich cultural blend, combining **African traditions with Indian customs**, especially visible in their **music, dance, and folklore**.
- They are known for traditional dances like the **Dhamal**, which has African influences and is performed during festivals and special occasions.
- Traditionally, the Siddi community has been involved in **agriculture, manual labor, and forest-based livelihoods**.
- Many Siddis live in **remote or rural areas**, often facing **economic and educational challenges**.
- Despite social and economic barriers, literacy and awareness among Siddis are gradually improving, with **growing access to education** and government schemes.
- The Siddi community in Gujarat has achieved a **literacy rate of over 72%**, a sign of notable progress.
- The Siddi community is recognized as a **Scheduled Tribe (ST)** in India and is listed among the **Particularly Vulnerable Tribal Groups (PVTGs)**.
- They are entitled to **reservations, welfare schemes**, and other benefits provided by the Indian government for tribal upliftment.

Hence option (b) is correct.

PYQ REFERENCE: (2014)

Q. A community of people called Manganiyars is well-known for their

- (a) martial arts in North-East India
- (b) musical tradition in North-West India**
- (c) classical vocal music in South India
- (d) pietra dura tradition in Central India

Source: <https://www.newsonair.gov.in/president-droupadi-murmu-urges-tribal-community-to-pursue-education-as-a-means-of-empowerment-progress/>

SCHEMES

12. PM Surya Ghar Muft Bijli Yojana

12. Consider the following statements with respect to PM Surya Ghar: Muft Bijli Yojana:

1. It aims to provide free electricity to households by facilitating the installation of rooftop solar panels.
2. Under the scheme, 100% subsidy is provided for solar systems up to 2 kW capacity.
3. The possession of a valid electricity connection is one of the eligibility criterias under the scheme.
4. As of January 2025, the scheme fulfilled its vision to supply solar power to one crore households.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Answer: (b) Only two

Explanation:

In NEWS: Over 5 Lakh Loan Applications amounting to ₹10,907 crore Sanctioned by PSBs under PM Surya Ghar Muft Bijli Yojana

PM Surya Ghar: Muft Bijli Yojana:

- This initiative aims to provide free electricity to households by facilitating the installation of rooftop solar panels. **Hence statement 1 is correct.**
- The PMSGMBY, the world's largest domestic rooftop solar initiative, is reshaping India's energy landscape with a bold vision to supply solar power to one crore households by March 2027.
- As of January 27, 2025, the scheme has already benefitted 8.46 lakh households through rooftop solar installations. **Hence statement 4 is incorrect.**
- Under the "Model Solar Village" component of the scheme, the focus is on establishing one Model Solar Village per district throughout India.
- This initiative aims to promote solar energy adoption and empower village communities to achieve energy self-reliance.

Eligibility:

The household must be an Indian citizen.

The household must own a house with a roof that is suitable for installing solar panels.

The household must have a valid electricity connection.

The household must not have availed any other subsidy for solar panels.

Hence statement 3 is correct.

Subsidy Details:

- 60% subsidy for solar systems up to 2 kW capacity. **Hence statement 2 is incorrect.**
- 40% subsidy for additional capacity between 2 kW and 3 kW.
- Maximum subsidy limit is for 3 kW systems.

Key Benefits:

- **Free Electricity for Households:** The scheme provides households with free electricity through the installation of subsidized rooftop solar panels, significantly reducing their energy costs.
- **Reduced Electricity Costs for the Government:** By promoting the widespread use of solar power, the scheme is expected to save the government an estimated ₹75,000 crore annually in electricity costs.
- **Increased Use of Renewable Energy:** The scheme encourages the adoption of renewable energy sources, contributing to a more sustainable and environmentally friendly energy mix in India.
- **Reduced Carbon Emissions:** The transition to solar energy under this scheme will help lower carbon emissions, supporting India's commitment to reducing its carbon footprint.

PYQ REFERENCE: (2025)

Q. Consider the following statements about 'PM Surya Ghar Muft Bijli Yojana':

- I. It targets installation of one crore solar rooftop panels in the residential sector.
- II. The Ministry of New and Renewable Energy aims to impart training on installation, operation, maintenance and repairs of solar rooftop systems at grassroot levels.
- III. It aims to create more than three lakhs skilled manpower through fresh skilling, and upskilling, under scheme component of capacity building.

Which of the statements given above are correct?

- (a) I and II only
- (b) I and III only
- (c) II and III only
- (d) I, II and III**

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2175815>

13. PM-KUSUM

13. With reference to the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), consider the following statements:

1. It aims to provide energy security to farmers, increase income, and promote solar energy in the agriculture sector.
2. The scheme is implemented by the Ministry of Power.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

In NEWS: ISA plans to replicate India's PM-KUSUM to power farms and rural homes in members countries

Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)

- **Launched in 2019** by the **Ministry of New and Renewable Energy (MNRE)**. **Hence statement 2 is incorrect.**
- **Objective:** To **provide energy security to farmers, increase income, and promote solar energy** in the agriculture sector. **Hence statement 1 is correct.**

Objectives

1. To **install solar power plants** in rural areas.
2. To **solarize agricultural pumps** to reduce dependence on diesel and grid electricity.
3. To enable **farmers to sell surplus power** to the grid and earn additional income.
4. To **de-dieselize agriculture** and reduce carbon emissions.

Components of PM-KUSUM

Component	Description	Target
Component-A	Installation of decentralized grid-connected renewable power plants (up to 2 MW each) on barren/fallow land.	10,000 MW
Component-B	Installation of standalone solar pumps for irrigation.	20 lakh pumps
Component-C	Solarization of existing grid-connected pumps , allowing farmers to feed surplus power to the grid.	15 lakh pumps

Financial Pattern
● Subsidy structure:

- **60%** of the cost: Central and State Government (shared 30:30).
- **30%**: Bank loan.
- **10%**: Farmer's contribution.

Benefits

1. **Reduces electricity subsidy burden** on states.
2. **Cuts diesel consumption** in irrigation.
3. **Generates extra income** for farmers by selling surplus power.
4. **Encourages use of barren land** for solar generation.
5. Contributes to **India's renewable energy target** (500 GW non-fossil capacity by 2030).

PYQ REFERENCE: (2020)

Q. With reference to solar water pumps, consider the following statements:

1. Solar power can be used for running surface pumps and not for submersible pumps.
2. Solar power can be used for running centrifugal pumps and not the ones with piston.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Source: <https://www.downtoearth.org.in/energy/isa-plans-to-replicate-indias-pm-kusum-to-power-farms-and-rural-homes-in-members-countries>

14. PM-SHRI

14. Which of the following is NOT a feature of the PM-SHRI scheme?

- (a) Teacher training and professional development
- (b) Community engagement for better school governance
- (c) Providing free higher education to all students
- (d) Technology-enabled classrooms

Answer: (c) Providing free higher education to all students

Explanation:

In NEWS: The CPI had stated that the PM-SHRI funds for States depended on adherence to the National Education Policy (NEP).

PM-SHRI (Pradhan Mantri Schools for Rising India):

- PM-SHRI is a centrally sponsored scheme launched by the Ministry of Education to transform over 14,500 existing schools into model schools across India.
- It involves joint funding by the Centre and States/UTs.

Objectives of PM-SHRI:

- Holistic Education aligned with the National Education Policy (NEP) 2020.
- Modern Infrastructure – smart classrooms, green buildings, and improved facilities.
- Inclusive Learning – catering to all students, with focus on equity.
- Digital Learning and tech integration.
- Vocational Education starting from Class 6.

Key Features:

- Green schools: Environmentally sustainable infrastructure.
- Technology-enabled classrooms.
- Assessment reforms focusing on competency-based learning.
- Teacher training and professional development.
- Community engagement for better school governance.

Hence option (c) is correct.

PYQ REFERENCE: (2018)

Q. Consider the following statements:

1. As per the Right to Education (RTE) Act, to be eligible for appointment as a teacher in a State, a person would be required to possess the minimum qualification laid down by the concerned State Council of Teacher Education.
2. As per the RTE Act, for teaching primary classes, a candidate is required to pass a Teacher Eligibility Test conducted in accordance with the National Council of Teacher Education guidelines.
3. In India, more than 90% of teacher education institutions are directly under the State Governments.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Source: https://www.thehindu.com/news/national/kerala/cpi-extends-an-olive-branch-to-cpi-over-mutual-differences-on-seeking-pm-shri-funds-linked-to-complying-with-nep/article70186264.ece#google_vignette

15. Sugamya Bharat Abhiyan

15. With reference to 'Sugamya Bharat Abhiyan', which of the following statements is/are correct?

1. The scheme aims to release the sex workers from their practice and provide them with alternative sources of livelihood.
2. The campaign introduced a structured approach, focusing on making public buildings, transport networks like buses and trains, and digital platforms accessible to Divyangjans.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:

In NEWS: Revamped Sugamya Bharat App Empowers Disabled Users

The Sugamya Bharat Abhiyan:

- The Sugamya Bharat Abhiyan, also known as the Accessible India Campaign, embarked on a mission to reshape India into a truly inclusive society.
- Launched on 3rd December 2015 by the Honourable Prime Minister, this flagship initiative was a direct response to the long-overlooked challenges faced by persons with disabilities. **Hence statement 1 is incorrect.**
- Rooted in the vision of "Sabka Sath, Sabka Vikas, Sabka Vishwas," the campaign aimed to ensure universal accessibility across three vital domains: built infrastructure, transport systems, and the information and communication technology (ICT) ecosystem.
- The campaign introduced a structured approach, focusing on making public buildings, transport networks like buses and trains, and digital platforms accessible to Divyangjans. **Hence statement 2 is correct.**
- It also sought to create awareness and set enforceable standards for accessibility compliance.
- Although initially planned to conclude by March 2024, the campaign's objectives have been absorbed into the Creation of Barrier-Free Environment Scheme under the broader umbrella of the Scheme for Implementation of the Rights of Persons with Disabilities Act (SIPDA).
- This transition reinforces the idea that accessibility is a continuous endeavour, requiring sustained efforts to meet evolving challenges.
- As the Sugamya Bharat Abhiyan marks its ninth year, it stands as a milestone in India's journey towards fulfilling its commitment to an inclusive and equitable society, where every individual can thrive without barriers.

PYQ REFERENCE:

Q. 'Rashtriya Garima Abhiyaan' is a national campaign to

- rehabilitate the homeless and destitute persons and provide them with suitable sources of livelihood
- release the sex workers from their practice and provide them with alternative sources of livelihood
- eradicate the practice of manual scavenging and rehabilitate the manual scavengers
- release the bonded labourers from their bondage and rehabilitate them

Source: <https://www.aninews.in/news/national/general-news/revamped-sugamya-bharat-app-launched-at-purple-fest20251011230912/>

16. PM VIKAS Scheme

16. Which one of the following is the purpose of 'PM VIKAS', a scheme of the Government?

- Providing technical and financial assistance to start-up entrepreneurs in the field of renewable sources of energy
- Replacing traditional crafts with modern manufacturing industries
- Providing financial support for construction of urban infrastructure
- Enhancing employability and skill development of youth from minority communities

Answer: (d) Enhancing employability and skill development of youth from minority communities

Explanation:

In NEWS: MoU signed for Skilling Project under PM VIKAS Scheme between Ministry of Minority Affairs and IIT Palakkad, Kerala

PM VIKAS Scheme:

- **Full Form & Launch:** PM VIKAS stands for **Pradhan Mantri Vikas Scheme**, launched by the **Ministry of Minority Affairs**.

- **Objective:** The scheme aims to **enhance employability and technical skills** of youth from **minority communities**. **Hence option (d) is correct.**
- **Collaboration with Institutes:** Training programs under PM VIKAS are implemented in partnership with reputed institutes like **IIT Palakkad**.
- **Skill Development Focus:** Candidates are trained in **emerging technology areas**, such as **Drone R&D, Embedded Software, and Junior Chip Design**, rather than only traditional crafts.
- **Capacity Building:** Each training initiative targets **hundreds of candidates** from minority communities per project cycle.
- **Employment & Entrepreneurship:** The scheme **prepares youth for high-demand jobs**, promotes **research and innovation**, and encourages **entrepreneurial ventures**.
- **Inclusivity & Equity:** Focuses on **minority communities**, contributing to **inclusive growth and skill empowerment**.
- **Alignment with National Goals:** Supports **technical education, innovation, and skill-based employment**, aligning with India's broader **digital and high-tech workforce development initiatives**.

PYQ REFERENCE: (2016)

Q. Which one of the following is a purpose of 'UDAY', a scheme of the Government?

- Providing technical and financial assistance to start-up entrepreneurs in the field of renewable sources of energy
- Providing electricity to every household in the country by 2018
- Replacing the coal-based power plants with natural gas, nuclear, solar, wind and tidal power plants over a period of time.
- Providing for financial turnaround and revival of power distribution companies**

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2176389>

17. Government Initiatives for Elderly in India

17. Consider the following pairs:

S.no	Scheme	Ministry	Objective
1.	Atal Pension Yojana (APY)	Ministry of Finance	To provide a guaranteed pension ensuring old-age income security for unorganised sector workers.
2.	Rashtriya Vayoshri Yojana (RVY)	Ministry of Social Justice & Empowerment	To provide free assisted-living devices to BPL senior citizens with age-related disabilities.
3.	SAGE Portal	Ministry of Social Justice & Empowerment	To promote start-ups providing innovative products and services for the elderly ("Silver Economy").
4.	SACRED Portal	Ministry of Social Justice & Empowerment	To connect senior citizens (60+) with employment opportunities for dignified re-engagement.

How many of the pairs given above are correctly matched?

- Only one
- Only two
- Only three
- All the four

Answer: (d) All the four

Explanation:

In NEWS: Elderly in India - Population, Challenges, and Government Initiatives

Demographic Profile:

- India's elderly population (60+) is projected to **increase from 100 million (2011) to 230 million (2036)** — about **15%** of the population.
- By **2050** → expected to reach **319 million** (LASI Report 2021).
- **Sex ratio (elderly):** 1,065 females per 1,000 males; **58% are women**, 54% of whom are **widows**.
- **Dependency ratio:** 62 dependents per 100 working-age individuals.
- **Regional variation:**
 - **Kerala** → 13% (2011) → 23% (2036)
 - **Uttar Pradesh** → 7% (2011) → 12% (2036)
 - Southern States + Himachal Pradesh + Punjab = highest elderly share

Challenges Faced by Elderly

The elderly in India often find themselves in vulnerable positions due to a lack of adequate support systems, both institutional and familial. They confront multifaceted challenges including:

- **Health:** Stigmatised mental health conditions (dementia, Alzheimer's), rising disabilities, inadequate geriatric infrastructure, Urban-rural divide in access to medical services.
- **Economic:** Insufficient social security provisions, rise of living and medical expenses, limited financial resources.
- **Social:** Weakening family support systems, social isolation, neglect, lack of companionship etc.
- **Digital divide:** Technology adoption barriers, lack of training and accessible devices.
- **Infrastructure:** Inadequate literacy, emergency response system overlooking elderly as vulnerable group. Public spaces and transport in India is largely not elderly-friendly since ramps, handrails and accessible washrooms are missing in many areas.

Government Schemes for Senior Citizens - Ministry & Objective

Scheme	Ministry	Objective
Atal Pension Yojana (APY)	Ministry of Finance / PFRDA	To provide a guaranteed pension (₹1,000-₹5,000) ensuring old-age income security for unorganised sector workers.
Atal Vayo Abhyuday Yojana (AVYAY)	Ministry of Social Justice & Empowerment (MoSJE)	Umbrella scheme for empowerment, inclusion, and well-being of senior citizens.
Integrated Programme for Senior Citizens (IPSrC)	MoSJE	To provide shelter, food, and healthcare facilities to indigent senior citizens through grants-in-aid.
Rashtriya Vayoshri Yojana (RVY)	MoSJE / ALIMCO	To provide free assisted-living devices to BPL senior citizens with age-related disabilities.
Elderline (Helpline 14567)	MoSJE	To provide a 24×7 national helpline for grievance redressal and emotional support to senior citizens.
SAGE Portal (Senior Care Ageing Growth Engine)	MoSJE / IFCI	To promote start-ups providing innovative products and services for the elderly ("Silver Economy").

SACRED Portal	MoSJE	To connect senior citizens (60+) with employment opportunities for dignified re-engagement.
Geriatric Caregiver Training	MoSJE / NISD	To train caregivers for professional elderly care and support services.
Ayushman Bharat - PMJAY (Elderly Expansion)	Ministry of Health & Family Welfare (MoHFW)	To provide ₹5 lakh annual health insurance coverage for senior citizens aged 70+.
IGNOAPS (under NSAP)	Ministry of Rural Development (MoRD)	To provide non-contributory old-age pension to BPL senior citizens (60+).
National Programme for Health Care of the Elderly (NPHCE)	MoHFW	To provide accessible and comprehensive healthcare services for elderly persons.
Senior Citizens' Welfare Fund (SCWF)	MoSJE	To use unclaimed deposits for financing various welfare schemes for senior citizens.

Hence all the pairs are correct.

PYQ REFERENCE: (2016)

Q. Regarding 'Atal Pension Yojana', which of the following statements is/are correct?

1. It is a minimum guaranteed pension scheme mainly targeted at unorganized sector workers.
2. Only one member of a family can join the scheme.
3. Same amount of pension is guaranteed for the spouse for life after subscriber's death.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only**
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2183196>

18. Paramparagat Krishi Vikas Yojana (PKVY)

18. With reference to Paramparagat Krishi Vikas Yojana (PKVY), which of the following statements is/are correct?

1. It is an extended component of Soil Health Management (SHM) under the Central Sector Scheme (CSS) of National Mission on Sustainable Agriculture (NMSA)
2. PKVY aims at supporting and promoting organic farming, in turn resulting in improvement of soil health.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:
In NEWS:

- As on 30.01.2025, ₹2,265.86 crore released under PKVY (2015–25).
- ₹205.46 crore released for PKVY under RKVY in FY 2024–25.
- Around 15 lakh hectares under organic farming; 52,289 clusters formed; 25.30 lakh farmers benefitted (as of Feb 2025).
- By Dec 2024, 6.23 lakh farmers, 19,016 local groups, 89 input suppliers, and 8,676 buyers registered on Jaivik Kheti portal.

Paramparagat Krishi Vikas Yojana (PKVY):

- The Paramparagat Krishi Vikas Yojana (PKVY), launched in 2015, is an extended component of Soil Health Management (SHM) under the Centrally Sponsored Scheme (CSS), National Mission on Sustainable Agriculture (NMSA). **Hence pair 1 is incorrect.**
- PKVY aims at supporting and promoting organic farming, in turn resulting in improvement of soil health. **Hence pair 2 is correct.**
- Includes Cluster-Based Organic Farming:
 - Farmers organized into 20-hectare clusters
 - Encourages collective training, resource sharing, and uniform organic standards
- Promotes low-cost, chemical-free farming methods

Objectives

- Improve soil health and natural resource conservation
- Reduce use of chemical fertilizers and pesticides
- Provide safe food, increase farmer income
- Support certification, branding, marketing, and entrepreneurship

Implementation Structure

- Farmers apply through Regional Councils
- Councils prepare Annual Action Plans (AAPs)
- Funds flow from Centre → State → Councils → Farmers (via DBT)
- Ensures transparency and farmer empowerment

Organic Certification Systems

- Third-Party Certification (NPOP) – For international markets, by accredited agencies
- Participatory Guarantee System (PGS-India) – Community-based, for domestic market
- Large Area Certification (LAC) – For chemical-free regions, speeds up certification

PYQ REFERENCE: (2018)

Q. With reference to Pradhan Mantri Kaushal Vikas Yojana, consider the following statements:

1. It is the flagship scheme of the Ministry of Labour and Employment.
2. It, among other things will also impart training in soft skills, entrepreneurship, financial and digital literacy.
3. It aims to align the competencies of the unregulated workforce of the country to the National Skill Qualification Framework.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only**
- (d) 1, 2, and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2175205>

19. UMEED portal

19. With reference to the UMEED Portal, recently launched by the Government of India, consider the following statements:

1. It is a centralised digital platform for real-time uploading, verification, and monitoring of Waqf properties.
2. It is implemented by the Ministry of Home Affairs.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

In NEWS: Nearly four months after the Centre launched the UMEED portal, a centralised digital platform for real-time uploading, verification, and monitoring of Waqf properties, only around 4,000 of the total 8.72 lakh Waqf establishments spread across 30 States and Union Territories have been registered.

UMEED Portal:

- **Launched by:** Ministry of Minority Affairs, Government of India. **Hence statement 2 is incorrect.**
- **Full form:** *Unified Management of Electronic Estate of Auqaf through Digitalization* (UMEED).
- **Objective:**
 - Centralised digital platform for **real-time uploading, verification, and monitoring** of Waqf properties. **Hence statement 1 is correct.**
 - Ensures **transparency, accountability, and better governance** of Waqf assets.
- **Coverage:** About **8.72 lakh Waqf establishments** across **30 States and Union Territories.**
- **Progress** (as of 4 months post-launch): Only **~4,000 establishments registered.**
- **Significance:**
 - Prevents encroachment & misuse of Waqf lands.
 - Facilitates digital record-keeping, income generation, and welfare schemes.
 - Strengthens institutional capacity of **State Waqf Boards.**

PYQ REFERENCE:

Q. What is/are the advantage/advantages of implementing the 'National Agriculture Market' scheme?

1. It is a pan-India electronic trading portal for agricultural commodities.
2. It provides the farmers access to nationwide market, with prices commensurate with the quality of their produce.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Source: <https://www.thehindu.com/news/national/waqf-boards-cites-portal-failure-government-points-to-missing-records/article70105127.ece>

20. LEAPS 2025

20. With reference to the Logistics Excellence, Advancement, and Performance Shield (LEAPS) 2025, consider the following statements:

1. It is a flagship initiative launched by the Ministry of Road Transport and Highways as part of the Bharatmala project.
2. The initiative aims to benchmark and reward best practices in the logistics sector across India.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:

In NEWS: Union Minister for Commerce and Industry, Shri Piyush Goyal launches LEAPS 2025 to benchmark logistics excellence in India

LEAPS 2025:

- LEAPS 2025 stands for **Logistics Excellence, Advancement, and Performance Shield 2025**.
- Launched by the **Union Ministry of Commerce and Industry**. **Hence statement 1 is incorrect.**
- Implemented by the **Department for Promotion of Industry and Internal Trade (DPIIT)**.
- Announced during the **4th anniversary of PM GatiShakti at Bharat Mandapam, New Delhi**.
- The initiative aims to **benchmark, recognise, and reward best practices** in India's logistics sector. **Hence statement 2 is correct.**
- Registrations opened in **2025**, with a deadline of **15th November 2025**.

Objectives

- To **promote excellence, innovation, and sustainability** in logistics operations.
- To **encourage collaboration** among industry, government, and academia.
- To **enhance logistics efficiency and reduce costs** across the supply chain.
- To strengthen India's logistics ecosystem for a **future-ready, globally competitive economy**.
- To support national missions like **Make in India, Atmanirbhar Bharat, and Viksit Bharat @ 2047**.

Alignment with National Policies

- LEAPS 2025 aligns with the **National Logistics Policy (NLP) 2022**.
- It supports the **PM GatiShakti National Master Plan** for integrated infrastructure.
- The initiative contributes to India's **logistics cost reduction target** and global competitiveness.
- It reinforces the government's vision of **"Whole-of-Government"** approach in logistics reform.

Scope and Coverage

- Covers all major logistics modes: **Air, Road, Rail, and Maritime freight operators**.
- Includes **Warehousing providers** – industrial, consumable, and agricultural.
- Extends to **Multimodal transport operators, MSMEs, and Startups**.
- Involves **Technology and operations service providers** in logistics.
- Recognises **Academic and Research institutions** contributing to logistics education and innovation.

Source:

<https://www.pib.gov.in/PressReleaseDetailm.aspx?PRID=2178621>

21. UDISE Plus

21. The term 'UDISE Plus', recently seen in the news in the context of

- It is a comprehensive database for school education in India
- It provides skills that give employability to women
- It bringing all pulse crops under crop insurance scheme with low premium
- It is a village which sustains its Open Defecation Free (ODF) status, ensures solid and liquid waste management and is visually clean

Answer: (a) It is a comprehensive database for school education in India

Explanation:

In NEWS: 340 Tripura Schools with 6,492 Students Run by Single Teacher: UDISE+ 2024-25 Report

About UDISE Plus

- Unified District Information System for Education **Plus (UDISE Plus)** is **one of the largest Management Information Systems initiated by Department of School Education and Literacy, Ministry of Education, on school education** and was launched in 2018-2019 to speed up data entry, reduce errors, improve data quality and ease its verification. **Hence option (a) is correct.**
 - UDISE Plus is an application to collect the school details about factors related to a school and its resources.
 - UDISE Plus is an updated and improved version of UDISE, which was initiated in 2012-13 by the Ministry of Education.
 - UDISE Plus covers more than 49 million schools, more than 9.5 million teachers and more than 265 million children.
 - It helps measure the education parameters from classes 1 to 12 in government and private schools across India.
- Source:** <https://northeasttoday.in/northeast/340-tripura-schools-with-6492-students-run-by-single-teacher-udise-2024-25-report/>

SCIENCE & TECHNOLOGY

22. Geoengineering

22. Consider the following pairs:

S.No	Geoengineering Method	Purpose
1	Ocean fertilisation	Solar Radiation Management
2	Stratospheric aerosol injection	Carbon Dioxide Removal
3	Sea curtains	slow melting of polar ice sheets and glaciers

In how many of the above rows is the given information correctly matched?

- Only one
- Only two
- All the three
- None

Answer: (a) Only one

Explanation:

In NEWS: Polar geoengineering projects could cause severe harm, scientists say

Geoengineering:

- Geoengineering involves intentionally intervening in the Earth's climate system to counteract climate change, primarily by removing carbon dioxide (CDR) or managing solar radiation (SRM).
- While proposals range from artificial cloud brightening and stratospheric aerosol injection to ocean fertilization, these methods are unproven at scale and carry significant environmental and societal risks.

Geoengineering Methods:

Carbon Dioxide Removal (CDR) Methods: These aim to remove CO₂ from the atmosphere and store it safely.

- Afforestation and reforestation involve planting new forests or restoring old ones to absorb atmospheric CO₂.
- Bioenergy with carbon capture and storage (BECCS) burns biomass for energy while capturing and storing the resulting CO₂ underground.
- Direct air capture (DAC) uses chemical processes to extract CO₂ directly from the air and store it underground or reuse it.
- Soil carbon sequestration enhances soil management practices to increase the amount of carbon stored in soil.
- Ocean fertilisation adds nutrients (like iron) to oceans to stimulate phytoplankton growth, which absorbs CO₂. **Hence pair 1 is incorrect.**

6. Enhanced weathering spreads crushed minerals over land or in oceans to chemically react with and remove CO₂ from the air.
7. Blue carbon management protects and restores coastal ecosystems (like mangroves and seagrasses) that capture carbon.

Solar Radiation Management (SRM) Methods: These aim to reflect sunlight back into space to reduce global warming effects.

1. Stratospheric aerosol injection (SAI) releases reflective particles (like sulphur dioxide) into the upper atmosphere to block some sunlight. **Hence pair 2 is incorrect.**
2. Marine cloud brightening sprays sea salt into clouds to make them brighter and more reflective.
3. Surface albedo enhancement increases the reflectivity of land or built surfaces (e.g. white roofs or reflective crops).
4. Space-based reflectors propose placing mirrors or other reflective objects in space to block or deflect sunlight.
5. Cirrus cloud thinning aims to reduce the warming effect of high-altitude clouds by seeding them to encourage ice crystal formation.

Polar or Glacial Geoengineering Methods: These target polar ice sheets and glaciers to slow melting and sea level rise.

1. Subglacial water removal pumps water from beneath glaciers to slow their sliding into the ocean.
2. Sea curtains or seabed walls are physical barriers placed underwater to block warm ocean currents from reaching polar glaciers. **Hence pair 3 is correct.**
3. Sea ice thickening uses pumps to spray seawater onto ice surfaces so it freezes and strengthens the ice.
4. Glass microbeads spreading involves scattering reflective beads over ice to increase sunlight reflection and reduce melting.

Risks and Concerns: Geoengineering would not address the root causes of climate change but proposes to mask its effects, presenting significant new risks.

- **Unintended Environmental Consequences:** Geoengineering could interfere with natural ocean and terrestrial ecosystems, and sudden cessation of Solar Radiation Management (SRM) could worsen climate effects.
- **Technical and Scientific Gaps:** Few geoengineering methods are proven to work on a large scale, and their risks and uncertainties are not well understood.
- **Moral Hazard:** Some argue that the potential for geoengineering might discourage vital efforts to reduce greenhouse gas emissions.
- **Governance and Ethics:** There are significant concerns about the governance of these cross-boundary technologies and questions about public consent. The Center for International Environmental Law (CIEL) highlights potential human rights impacts and disproportionate effects on vulnerable communities.

PYQ REFERENCE: (2025)

Q. With reference to 'Direct Air Capture' (DAC), which of the following statements is/are correct?

- I. It can be used as a way of carbon sequestration.
- II. It can be a valuable approach for plastic production and in food processing.
- III. In aviation, it can be a source of carbon for combining with hydrogen to create synthetic low-carbon fuel.

Select the correct answer using the code given below.

- (a) I and II only
- (b) III only
- (c) I, II and III**
- (d) None of the above statements is correct

Source: <https://www.thehindu.com/sci-tech/science/polar-geoengineering-projects-could-cause-severe-harm-scientists-say/article70112422.ece>

23. Role of Technology in Disaster Management

23. Geographic Information Systems (GIS) can assist disaster management authorities in which of the following ways?

1. Hazard zonation and vulnerability mapping
2. Evacuation route optimization
3. Real-time rainfall forecasting
4. Overlaying population density with flood zones

Select the correct answer using the code below:

- (a) 1 and 2 only
- (b) 1, 2 and 4 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

Answer: (b) 1, 2 and 4 only

Explanation:

In NEWS: How to harness technology for effective disaster management

- Climate change has increased the frequency, intensity, and unpredictability of disasters such as floods, cyclones, cloudbursts, and landslides.
- Traditional disaster management approaches are reactive; there is now a need for proactive, data-driven systems using modern technology.

Role of Technology in Disaster Management:

A. Remote Sensing (RS)

- Provides **real-time data** through satellites, aircraft, or drones.
- Used for **monitoring rainfall, land cover change, soil moisture, river flow, and detecting disaster-prone areas.**
- Enables **post-disaster assessment** of damage and recovery.

B. Geographic Information Systems (GIS)

- Integrates **spatial and non-spatial data** for hazard mapping and risk analysis.
- Helps in **evacuation route planning, vulnerability mapping, and decision support.**
- Used in **flood zonation, cyclone path tracking, and infrastructure planning.**

Note: GIS is a spatial analysis tool; real-time rainfall forecasting depends on meteorological models, not GIS directly. **Hence 3 is incorrect.**

C. Sensor Networks / Internet of Things (IoT)

- Deployed in the field to provide **real-time monitoring** of rainfall, river levels, or soil moisture.
- Helps issue **early warnings** when thresholds are crossed.
- Improves **accuracy of forecasting systems.**

D. Unmanned Aerial Vehicles (UAVs) / Drones

- Used for **rapid aerial surveys** in inaccessible or high-risk zones.
- Helps in **damage assessment, locating victims, and delivering relief materials.**
- Provides **high-resolution images** to guide emergency response.

E. Artificial Intelligence (AI) & Machine Learning (ML)

- Processes large datasets for **pattern recognition, prediction, and analysis.**
- Used to **forecast floods, landslides, and cyclones** with higher accuracy.
- Helps optimize **resource allocation and rescue operations.**

F. Communication and Mobile Technologies

- Enable **timely alerts** to citizens via SMS, apps, or sirens.
- Ensure **connectivity** in disaster-hit areas through **mesh and satellite networks.**
- Facilitate **real-time coordination** among agencies.

G. Decision Support Systems (DSS)

- Integrate all data sources—RS, GIS, IoT, and AI—into **interactive dashboards**.
- Assist decision-makers with **visualization, analytics, and scenario planning**.
- Support **multi-agency collaboration** during disasters.

H. Geospatial Platforms

- Disseminate **maps and real-time data** to authorities and the public.
- Support **transparency and preparedness planning**.
- Example: National geoportals integrating hazard and vulnerability maps.

Indian Initiatives

- **Sachet App** – Real-time multilingual disaster alerts.
- **Bhuvan Portal (ISRO)** – Satellite-based disaster monitoring.
- **Digital Panchanama (Maharashtra)** – GPS-based damage assessment for quick compensation.
- **Urban Flood Forecasting Systems** – Localized flood prediction using sensors and GIS.

PYQ REFERENCE: (2015)

Q. In which of the following activities are Indian Remote Sensing (IRS) satellites used?

1. Assessment of crop productivity
2. Locating groundwater resources
3. Mineral exploration
4. Telecommunications
5. Traffic studies

Select the correct answer using the codes given below.

(a) 1, 2 and 3 only

(b) 4 and 5 only

(c) 1 and 2 only

(d) 1, 2, 3, 4 and 5

Source: <https://indianexpress.com/article/upsc-current-affairs/upsc-essentials/how-to-harness-technology-for-effective-disaster-management-10306728/>

24. 3D sensors

24. "3D sensors" have applications in which of the following?

1. Identify potholes
2. Quality inspection
3. Gesture-based control of lights
4. Crop yield estimation
5. Augmented Reality apps

Select the correct answer using the code given below.

(a) 1, 3 and 4 only

(b) 2, 3 and 5 only

(c) 1 and 4 only

(d) 1, 2, 3, 4 and 5

Answer: (d) 1, 2, 3, 4 and 5

Explanation:

In NEWS: NHAI to deploy 3D sensors to identify potholes, road cracks across 23 States

3D Sensors:

- 3D sensors are devices that capture real-world objects or environments in three dimensions, measuring not just x and y (width and height), but also z (depth).
- They detect the shape, size, distance, and spatial position of objects by analyzing reflected light, sound, or other signals.

- In simple terms, a 3D sensor can “see” depth — giving machines perception similar to human vision.

Applications of 3D Sensors:

- Smartphones and tablets: Facial recognition (Face ID), gesture control, **augmented reality (AR) apps**.
- Gaming: Motion tracking in devices like Xbox Kinect or VR headsets.
- Driver-assistance systems (ADAS): Parking sensors, collision avoidance, blind-spot detection.
- Autonomous vehicles: LIDAR-based 3D mapping for navigation and obstacle detection.
- Robotics: Object detection, picking and placing, safety zones.
- **Quality inspection:** Measuring parts in 3D to ensure precision in manufacturing.
- Medical imaging and surgery: 3D scanners assist in prosthetics design, surgical planning, and rehabilitation.
- Patient monitoring: Depth cameras detect movement and posture.
- Facial recognition and intrusion detection systems use 3D imaging for higher accuracy.
- Create realistic 3D maps of users and environments for immersive experiences.
- Road Safety: **Detects potholes**, cracks, and surface defects on national highways.
- **Gesture-based control of lights**, TVs, and appliances using 3D motion sensors.
- Drones with 3D sensors for mapping terrain, crop monitoring, and **yield estimation**.

Hence option (d) is correct.

Common 3D sensing technologies include:

- Time-of-Flight (ToF): Measures the time light takes to reflect back.
- LIDAR (Light Detection and Ranging): Uses laser pulses to build accurate 3D surface maps.
- Structured Light: Projects patterns and measures distortions to detect shapes.
- Stereo Vision: Uses dual cameras to measure depth differences.

PYQ REFERENCE: (2018)

Q. "3D printing" has applications in which of the following?

1. Preparation of confectionery items
2. Manufacture of bionic ears
3. Automotive industry
4. Reconstructive surgeries
5. Data processing technologies

Select the correct answer using the code given below.

(a) 1, 3 and 4 only

(b) 2, 3 and 5 only

(c) 1 and 4 only

(d) 1, 2, 3, 4 and 5

Source: <https://www.thehindu.com/news/national/nhai-to-deploy-3d-sensors-to-identify-potholes-road-cracks-across-23-states/article70190569.ece>

25. 'Quantum tunnelling'

25. Which one of the following best describes the term 'Quantum tunnelling', recently seen in NEWS?

- (a) A phenomenon where two or more particles become linked, sharing the same fate regardless of the distance separating them. Measuring the state of one entangled particle instantly determines the state of the others.
- (b) The ability of a quantum system to exist in multiple states at the same time. For example, a qubit can be in a superposition of 0 and 1 until measured.
- (c) A quantum mechanical phenomenon where a particle can pass through a potential energy barrier that would be impenetrable in classical mechanics.

(d) A phenomenon where the wave-like properties of quantum particles, like electrons or photons, cause their probability amplitudes to combine, either reinforcing or canceling each other out.

Answer: (c) A quantum mechanical phenomenon where a particle can pass through a potential energy barrier that would be impenetrable in classical mechanics.

Explanation:

In NEWS: Trio win Physics Nobel 2025 for building device showing 'quantum tunnelling'

Quantum Tunnelling:

● Quantum tunnelling is a phenomenon where particles penetrate through an energy barrier that they classically cannot overcome, due to their wave-like nature in quantum mechanics. **Hence option (c) is correct.**

● **Origin:** It arises from the probabilistic interpretation of the Schrödinger equation, which allows a non-zero probability of finding a particle beyond a potential barrier.

Classical vs Quantum:

● In classical physics, a particle with energy less than the barrier height cannot cross it.

● In quantum physics, the wavefunction associated with the particle decays inside the barrier but continues beyond it, allowing "tunnelling."

Macroscopic Quantum Tunnelling (2025 Nobel Context):

● Demonstrated that quantum effects can manifest in **macroscopic systems** such as superconducting circuits.

● The 2025 Nobel Prize in Physics was awarded to **John Clarke, Michel H. Devoret, and John M. Martinis** for experiments showing **macroscopic quantum mechanical tunnelling** and **energy quantisation** in Josephson junctions.

● This discovery bridges the gap between **quantum theory and real-world applications** like quantum computers and quantum sensors.

Applications:

● **Nuclear Fusion:** Enables protons in the Sun's core to overcome repulsive forces and fuse.

● **Alpha Decay:** Explains how alpha particles escape atomic nuclei.

● **Semiconductor Devices:** Used in tunnel diodes and transistors.

● **Scanning Tunnelling Microscope (STM):** Uses tunnelling current to image surfaces at the atomic level.

● **Quantum Computing:** Basis for superconducting qubits and Josephson junctions.

Significance:

● Provides direct evidence for the **universality of quantum laws** at all scales.

● Forms the foundation for **next-generation quantum technologies** (computing, cryptography, communication).

Quantum related terms:

Qubit: The basic unit of information in quantum computing, analogous to a bit in classical computing. Unlike a bit, a qubit can exist in a superposition of both 0 and 1 simultaneously.

Quantum Entanglement: A phenomenon where two or more particles become linked, sharing the same fate regardless of the distance separating them. Measuring the state of one entangled particle instantly determines the state of the others.

Quantum Superposition: The ability of a quantum system to exist in multiple states at the same time. For example, a qubit can be in a superposition of 0 and 1 until measured.

Quantum interference is a phenomenon where the wave-like properties of quantum particles, like electrons or photons, cause their probability amplitudes to combine, either reinforcing or canceling each other out.

PYQ REFERENCE: (2022)

Q. Which one of the following is the context in which the term "qubit" is mentioned?

(a) Cloud Services

(b) Quantum Computing

(c) Visible Light Communication Technologies

(d) Wireless Communication Technologies

Source: <https://www.thehindu.com/sci-tech/science/2025-nobel-prize-in-physics-goes-to-trio-for-discovery-of-macroscopic-quantum-mechanical-tunnelling/article70133992.ece>

26. Metal - Organic Frameworks (MOFs)

26. With reference to the applications of Metal - Organic Frameworks (MOFs), consider the following:

1. Carbon dioxide capture and storage
2. Water harvesting from air
3. Removal of chemical pollutants from water
4. Conversion of nitrogen to ammonia

How many of the above are potential uses of MOFs?

(a) Only one

(b) Only two

(c) Only three

(d) All four

Answer: (c) Only three

Explanation:

In NEWS: Trio wins Chemistry Nobel for bridging metals and organics

The Nobel Award:

● The 2025 Nobel Prize in Chemistry was awarded "for the development of a new type of molecular architecture," specifically MOFs. The laureates are:

Researcher	Contribution / Role
Richard Robson	Early structural insights: linking metal ions with organic linkers to build open frameworks; conceptualizing the architectural possibilities of coordination networks.
Susumu Kitagawa	Demonstrated stability, gas mobility, and "flexible" frameworks: showed that MOFs can absorb and release gases without collapsing, and even respond (change shape) upon guest inclusion.
Omar Yaghi	Advanced rational design and scalability: coined the term "MOF," developed highly porous and stable frameworks (such as MOF-5), diversified the library of MOFs, and established robust modular building principles (reticular chemistry).

Because of their work, chemists have now created **tens of thousands of different MOFs**, each tailored for specific purposes.

Metal - Organic Frameworks (MOFs):

● **Metal-organic frameworks (MOFs)** are hybrid crystalline materials composed of metal ions or clusters (the "nodes") connected by organic molecules (the "linkers").

● They form **porous, three-dimensional networks** with internal cavities or channels in which other molecules (gases, solvents, reagents) can enter, move, or be stored.

● A key advantage is that many MOFs maintain their pore structure even after evacuation of guest molecules, and can then be re-filled.

Applications and significance:

The work was honored because MOFs open up “entirely new rooms for chemistry” — new possibilities for designing materials with functionalities previously out of reach.

1. Extremely large internal surface areas

A small amount of a MOF can have a huge internal surface area (comparable to a football field), because of the many pores and channels.

2. Selective adsorption, separation, and storage

MOFs can be tailored to capture or separate specific gases (e.g. CO₂, H₂) or molecules. This makes them promising for gas capture, storage, purification, and separation technologies.

3. Environmental & sustainability uses

○ **Carbon capture:** MOFs can help remove CO₂ from industrial emissions or even from ambient air.

○ **Water harvesting:** Some MOFs can trap water vapor from arid air at night and release it during the day, enabling water production in deserts.

○ **Pollutant removal / remediation:** They have been proposed or tested to remove “forever chemicals” (PFAS), residual pharmaceuticals, or other contaminants from water.

NOTE : Nitrogen fixation is not yet a primary application. **Hence 1, 2, and 3 are correct.**

4. Functional customization

Because MOFs are modular (you can choose different metal nodes and organic linkers), you can **design** their structure and properties for desired behaviors (flexibility, pore size, chemical reactivity, stability).

5. Bridging fundamental chemistry & real-world impact

MOFs have gone beyond academic curiosity and have begun to see early-stage commercialization, e.g. for gas separation.

Source: <https://www.thehindu.com/sci-tech/science/why-did-metal-organic-frameworks-win-the-2025-chemistry-nobel/article70139560.ece#:~:text=Susumu%20Kitagawa%2C%20Richard%20Robson%20and,can%20move%2C%20react%20or%20stay>

27. Nuclear Power Generation in India

27. Consider the following statements with respect to nuclear power generation in India:

I. The Atomic Energy Act, 1962 enables Private and foreign participation in nuclear power generation in India.

II. The Civil Liability for Nuclear Damage Act, 2010 establishes a legal framework for liability and compensation in the event of a nuclear accident in India.

Which of the statements given above is/are correct?

- (a) I only
- (b) II only
- (c) Both I and II
- (d) Neither I nor II

Answer: (b) II only

Explanation:

In NEWS: Government deliberating on questions of radioactive waste, private sector’s role in proposed nuclear bill

Nuclear Power Generation in India:

● **Atomic Energy Act, 1962 restricts nuclear power generation to government entities** such as:

- NPCIL (Nuclear Power Corporation of India Limited)
- BHAVINI (Bharatiya Nabhikiya Vidyut Nigam Limited)
- ASHVINI (NPCIL-NTPC JV). **Hence statement I is incorrect.**

● **Civil Liability for Nuclear Damage Act, 2010 (CLND Act)** — imposes operator and supplier liability, making foreign suppliers wary of participating. **Hence statement II is correct.**

● India is also a **member of the International Atomic Energy Agency (IAEA)** and follows global nuclear safety norms.

● As of 2025, India **operates 24 nuclear reactors** with an installed capacity of around 7,480 MW, and several others are under construction.

● Nuclear energy currently contributes about **3% of India’s total electricity generation.**

● India aims to increase nuclear capacity to 22,480 MW by 2031 and 100 GW by 2047 as part of its long-term clean energy strategy.

Three-Stage Nuclear Programme:

India’s indigenous nuclear power strategy, conceptualized by Dr. Homi J. Bhabha, is based on a three-stage plan:

● **Stage I – Pressurized Heavy Water Reactors (PHWRs):** Use natural uranium as fuel and heavy water as moderator.

● **Stage II – Fast Breeder Reactors (FBRs):** Use plutonium produced from Stage I as fuel and generate more fissile material than they consume.

● **Stage III – Thorium-based Reactors (Advanced Heavy Water or Molten Salt Reactors):** Utilize India’s vast thorium reserves to ensure long-term energy independence.

Proposed Changes in the Nuclear Energy Sector:

● Amendments to:

- Atomic Energy Act (1962)
- Civil Liability for Nuclear Damage Act (2010)

● To enable:

- Private and foreign participation in nuclear energy.
- Public-Private Partnerships (PPPs) in reactor design, construction, and operation.

PYQ REFERENCE: (2011)

Q. The function of heavy water in a nuclear reactor is to

- (a) Slow down the speed of neutrons
- (b) Increase the speed of neutrons
- (c) Cool down the reactor
- (d) Both (a) and (c)

Source: <https://www.thehindu.com/news/national/government-deliberating-on-questions-of-radioactive-waste-private-sectors-role-in-proposed-nuclear-bill/article70131422.ece#:~:text=Deliberations%20within%20the%20government%20continue,technologies%20still%20being%20ironed%20out>

28. Sahyog portal

28. The Sahyog Portal, recently seen in the news was launched to:

- (a) Promote digital payments between government agencies.
- (b) Support rural digital literacy programs.
- (c) Facilitate takedown of illegal online content by authorised agencies.
- (d) Enable Aadhaar verification of social media users.

Answer: (c) Facilitate takedown of illegal online content by authorised agencies.

Explanation:

In NEWS: X, formerly Twitter, said that it would appeal the Karnataka High Court’s decision that rejected its challenge to the Union government’s Sahyog portal.

Sahyog Portal:

● Sahyog Portal is a digital platform launched by the Union Government of India to enable State police and authorised agencies to send takedown notices to social media platforms.

● The portal aims to **facilitate swift removal of content deemed illegal or harmful, especially in cases involving public order, national security, or unlawful content.** **Hence option (c) is correct.**

● It functions as part of the implementation of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

- **Functionality:**
 - Acts as a centralised interface for sending takedown notices.
 - Targets illegal content (e.g., misinformation, hate speech, threats to public order).
 - Bypasses the need for lengthy judicial orders in urgent cases.
- It brings into focus the balance between national security and free speech.
- The portal raises important questions on intermediary liability, due process, and digital rights in India.

PYQ REFERENCE: (2018)

Q. The terms 'WannaCry, Petya and Eternal Blue' sometimes mentioned in the news recently are related to

- (a) Exoplanets
- (b) Cryptocurrency
- (c) Cyber attacks**
- (d) Mini satellites

Source: <https://www.thehindu.com/sci-tech/technology/deeply-concerned-by-karnataka-high-courts-order-x-corp/article70107687.ece>

29. Diethylene Glycol

29. Diethylene Glycol is a colorless, odorless, and hygroscopic organic compound.

It is a toxic alcohol used industrially as a solvent, antifreeze, and in the production of resins, plastics, and brake fluids. It is highly toxic to humans, especially when ingested. However, it has been found in some pharmaceutical formulations because

- (a) It is approved by regulatory authorities as a safe pharmaceutical excipient.
- (b) It enhances the flavor and color of syrups.
- (c) It is a cheaper substitute for safe excipients like glycerin or propylene glycol.
- (d) It helps in increasing the shelf life of the product and is used widely for that purpose.

Answer: (c) It is a cheaper substitute for safe excipients like glycerin or propylene glycol.

Explanation:

In NEWS: Coldrif cough syrup contamination linked to deaths of at least 16 children. Poor compliance with Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP)

Diethylene Glycol (DEG -C₄H₁₀O₃):

- Diethylene Glycol (DEG) is a colorless, odorless, and hygroscopic organic compound.
- It is a toxic alcohol used industrially as a solvent, antifreeze, and in the production of resins, plastics, and brake fluids.
- DEG is highly toxic to humans, especially when ingested.
- It has been mistakenly used in pharmaceutical formulations, often as a cheaper substitute for safe excipients like glycerin or propylene glycol.

Hence option (c) is correct.

Health Effects of DEG Poisoning:

- Toxic dose: As little as 1 ml/kg can be fatal.
- Target organs: Kidneys, liver, and central nervous system.
- Symptoms: Vomiting, Abdominal pain, Altered mental status, Acute kidney failure, Metabolic acidosis, Neurological complications and Death in severe cases

PYQ REFERENCE: (2011)

Q. Aspartame is an artificial sweetener sold in the market. It consists of amino acids and provides calories like other amino acids. Yet, it is used as a low-calorie sweetening agent in food items. What is the basis of this use?

- (a) Aspartame is as sweet as table sugar, but unlike table sugar, it is not readily oxidized in human body due to lack of requisite enzymes.
- (b) When aspartame is used in food processing, the sweet taste remains, but it becomes resistant to oxidation.
- (c) Aspartame is as sweet as sugar, but after ingestion into the body, it is converted into metabolites that yield no calories.
- (d) Aspartame is several times sweeter than table sugar, hence food items made with small quantities of aspartame yield fewer calories on oxidation.**

Source: <https://www.thehindu.com/opinion/editorial/ensuring-compliance-on-the-indian-pharmaceutical-sector/article70130669.ece>

30. Oral Rehydration Solutions (ORS)

30. Consider the following statements:

Statement-I: The FSSAI has withdrawn previous permissions that allowed brands to use 'ORS' label with disclaimers.

Statement-II: No product can use the term 'ORS' in its branding unless it meets WHO standards for oral rehydration solutions.

Statement III: Many products on the market mimicked ORS but had excessive sugar and inadequate electrolytes.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
- (b) Both Statement II and Statement III are correct but only one of them explains Statement I
- (c) Only one of the Statements II and III is correct and that explains Statement I
- (d) Neither Statement II nor Statement III is correct

Answer: (a) Both Statement II and Statement III are correct and both of them explain Statement I

Explanation:

In NEWS: Hyderabad paediatrician's eight-year battle leads to FSSAI prohibiting usage of ORS on food products

FSSAI's New Order:

- No product can use the term 'ORS' in its branding unless it meets WHO standards for oral rehydration solutions.
- The FSSAI has withdrawn previous permissions (from 2022 and 2024) that allowed brands to use 'ORS' with disclaimers.
- This move is to **stop misleading labels on fruit-based, ready-to-drink, or non-carbonated beverages pretending to be medical-grade ORS.**
- Many products on the market mimicked ORS but had:
 - Excessive sugar (up to 120 grams per litre)
 - Inadequate electrolytes (not matching WHO norms)
- **WHO-approved ORS has only 13.5 g sugar per litre**, with carefully balanced electrolytes to treat dehydration safely.

Hence both Statement II and Statement III are correct and both of them explain Statement I

WHO-Recommended ORS Composition (per 1 litre of water):

- Sodium chloride: 2.6 g
- Potassium chloride: 1.5 g

- Sodium citrate: 2.9 g
- Glucose (dextrose anhydrous): 13.5 g
- Total osmolarity: 245 mOsm/L

This formula is scientifically balanced to treat dehydration caused by diarrhoea and is based on decades of clinical research.

PYQ REFERENCE: (2016)

Q. With reference to pre-packed items in India, it is mandatory to the manufacturer to put which of the following information on the main label, as per the Food Safety and Standards (Packaging and Labelling) Regulation, 2011?

1. List of ingredients including additives
2. Nutrition information
3. Recommendations, if any, made by the medical profession about the possibility of any allergic reaction
4. Vegetarian/non-vegetarian

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 2 and 4 only
(d) 1 and 4 only

Source:

<https://www.thehindu.com/news/cities/Hyderabad/hyderabad-paediatricians-eight-year-long-battle-leads-to-fssai-prohibiting-usage-of-ors-on-food-products/article70170085.ece>

31. Nobel Prize in Physiology or Medicine

31. Which of the following are functions of Regulatory T Cells (Tregs) in the human immune system?

1. Prevention of autoimmune diseases
2. Regulation of inflammatory responses
3. Maintenance of immune homeostasis
4. Facilitation of organ transplantation success

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Answer: (d) 1, 2, 3 and 4

Explanation:

In NEWS: Medicine Nobel for scientists who demystified the immune system

2025 Nobel Prize in Physiology or Medicine

● Awarded for: *Discoveries related to the role of regulatory T cells (Tregs) in immune tolerance*

Laureates:

1. **Shimon Sakaguchi** (Japan)
2. **Mary E. Brunkow** (USA)
3. **Fred Ramsdell** (USA)

Key Discoveries:

1. Discovery of Regulatory T Cells (Tregs) – Shimon Sakaguchi (1995)

- Identified a unique subset of T cells (now known as Tregs) that prevent immune system overactivation.
- Challenged the earlier belief that self-reactive immune cells are eliminated solely in the thymus (*central tolerance*).

- Proposed **peripheral tolerance** via Tregs as a second layer of immune regulation.

2. FOXP3 Gene Discovery – Mary Brunkow & Fred Ramsdell (2001)

- Found that mutation in the **FOXP3 gene** causes immune dysregulation:
 - In mice: "Scurfy" disease (severe autoimmune condition)
 - In humans: **IPEX syndrome** (Immune dysregulation, Polyendocrinopathy, Enteropathy, X-linked)
- FOXP3 was identified as a **master regulator gene** for development and function of regulatory T cells.

3. Link Between FOXP3 and Tregs

- Established that **FOXP3 is essential for Treg development**, thus connecting molecular genetics to immune regulation.

Importance of the Discovery:

- **Regulatory T Cells (Tregs)** are vital in:
 - Preventing **autoimmune diseases**
 - Controlling **inflammation**
 - Maintaining **immune homeostasis**
 - Enabling successful **organ transplantation**
 - Modulating immune response in **cancer** (where Tregs can suppress anti-tumor immunity)

Hence all are correct.

Applications in Medicine:

- **Autoimmune diseases:** Boosting Tregs could help treat lupus, Type 1 diabetes, multiple sclerosis.
- **Organ transplantation:** Tregs may help prevent graft rejection.
- **Cancer treatment:** Modulating Tregs to enhance immune attack on tumors.
- **Chronic inflammation:** Managing diseases like Crohn's disease, rheumatoid arthritis.

PYQ REFERENCE: (2022)

Q. Which one of the following statements best describes the role of B cells and T cells in the human body?

- (a) They protect the body from environmental allergens.
(b) They alleviate the body's pain and inflammation.
(c) They act as immunosuppressants in the body.
(d) **They protect the body from the diseases caused by pathogens.**

Source: <https://www.thehindu.com/sci-tech/science/medicine-nobel-2025-awarded-to-trio-for-t-cells-discovery/article70130490.ece>

32. Non-communicable diseases

32. Which of the following are Non-Communicable Diseases (NCDs)?

1. Diabetes
2. Tuberculosis
3. Stroke
4. Heart disease
5. Malaria

Select the correct answer using the code given below:

- (a) 1, 2 and 3
(b) 1, 3 and 4
(c) 2, 4 and 5
(d) 1, 2, 4 and 5

Answer: (b) 1, 3 and 4

Explanation:

In NEWS: Non-communicable diseases surge: Heart disease, diabetes cause two-thirds of global deaths in 2023, surpassing infections.

Global Health Shift: NCDs Overtake Infections

- Non-Communicable Diseases (NCDs), including heart disease, stroke, and diabetes, now account for nearly two-thirds of global deaths, surpassing infections for the first time.
- Mental health disorders have surged, with anxiety increasing by 63% and depression by 26%.
- Global life expectancy has rebounded post-COVID to **76.3 years for women** and **71.5 years for men**, returning to pre-pandemic levels.

India's Health Landscape

- India recorded **9.85 million deaths** in 2023, ranking second globally after China.
- Life expectancy in India stands at **73 years for women** and **70.2 years for men**, with women experiencing the world's largest increase in life expectancy since 1950.
- Despite progress, **under-five mortality remains high**, with an estimated **692,000 deaths** in 2023.

Non-Communicable Diseases (NCDs)

- NCDs are **diseases that are not transmissible from person to person**.
- They are **chronic in nature**, often long-lasting, and progress slowly.

Major Types

1. **Cardiovascular Diseases (CVDs)** – heart attack, stroke, hypertension
2. **Diabetes** – Type 1 and Type 2
3. **Cancer** – lung, breast, cervical, etc.
4. **Chronic Respiratory Diseases** – COPD, asthma
5. **Mental Health Disorders** – depression, anxiety, bipolar disorder

Hence option (b) 1, 3 and 4 are correct.

Risk Factors

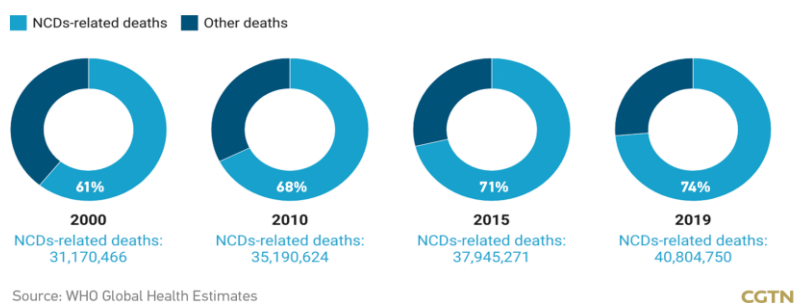
- **Lifestyle:** Tobacco, alcohol, unhealthy diet, physical inactivity
- **Environmental:** Pollution, climate change, occupational hazards
- **Genetic:** Family history of NCDs
- **Socioeconomic:** Urbanization, stress, inequities in healthcare access

Government Initiatives in India

- **National Programme for Prevention and Control of Cancer, Diabetes, CVD & Stroke (NPCDCS)**
- **Ayushman Bharat – Health and Wellness Centres** focusing on NCD prevention
- **Tobacco control measures:** COTPA Act, anti-smoking campaigns
- **Promotion of healthy lifestyle:** "Fit India Movement", diet and exercise awareness

Deaths from non-communicable diseases since 2000

Each year, an average of 36.2 million people die of non-communicable diseases (NCDs), equivalent to 68 percent of global deaths.



PYQ REFERENCE: (2013)

Q. Which of the following diseases can be transmitted from one person to another through tattooing?

1. Chikungunya
2. Hepatitis B
3. HIV-AIDS

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 and 3 only**
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source: <https://www.downtoearth.org.in/health/non-communicable-diseases-surge-heart-disease-diabetes-cause-two-thirds-of-global-deaths-in-2023-surpassing-infections>

33. Quasar OJ 287

33. Recently, Scientists have captured the 'quasar OJ 287', the first-ever radio image of two black holes orbiting each other. What is the significance of this observation?

- (a) It provides the first direct image of a binary supermassive black hole system, helping test General Relativity and understand gravitational waves.
- (b) It confirms the exact distance of Sagittarius A* from Earth and its role in the Milky Way's evolution.
- (c) It represents the first-ever detection of a black hole outside the Milky Way.
- (d) It demonstrates that M87's black hole periodically emits flares observable from Earth.

Answer: (a) It provides the first direct image of a binary supermassive black hole system, helping test General Relativity and understand gravitational waves.

Explanation:

In NEWS: Two black holes spotted in orbit circling around each other

Two Black Holes Spotted in Orbit:

- Scientists have **captured the first-ever radio image of two black holes orbiting each other**, confirming a long-standing astronomical prediction.
- The observation was made using the **RadioAstron Space Telescope** and a global network of radio telescopes.
- The system is identified as the **quasar OJ 287**, located about **5 billion light-years** away from Earth.
- OJ 287 is known for its **periodic bursts of light** every 12 years, which were linked to the orbital motion of two black holes.
- Historical light variations in OJ 287 were traced back to **19th-century photographic records**, confirming its long-term periodic behavior.
- The larger black hole in the system has a mass of around **18 billion times that of the Sun**, while the smaller one is about **100 million solar masses**.
- The smaller black hole emits a **jet of high-energy particles**, which appears to wobble or "wag" as it orbits the larger black hole.
- This image achieved **unprecedented angular resolution**, higher than that used for imaging **Sagittarius A* and M87 black holes**.

Significance:

- The discovery provides the **clearest evidence yet of a binary supermassive black hole system**.
- The finding is significant for the study of **gravitational waves**, since merging black holes are primary sources of such waves.
- It opens new avenues for **understanding galaxy evolution, relativistic jet formation, and Einstein's theory of General Relativity**. **Hence option (a) is correct.**

PYQ REFERENCE: (2019)

Q. Recently, Scientists observed the merger of giant blackholes' billions of light-years away from the Earth. What is the significance of this observation?

- (a) 'Higgs boson particles' were detected.
- (b) 'Gravitational waves' were detected.**
- (c) Possibility of inter-galactic space travel through 'wormhole' was confirmed.
- (d) It enabled the scientists to understand 'singularity'.

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2177369#:~:te>

[xt=They%20spotted%20radio%20image%20of%20back%20to%202019th%20century%20photographs](#)

34. Interstellar Mapping and Acceleration Probe (IMAP)

34. What is the purpose of 'Interstellar Mapping and Acceleration Probe (IMAP)', launched by NASA recently?

- (a) To explore and map the very boundaries of the heliosphere
- (b) To study the surface features of exoplanets in nearby star systems
- (c) To observe black holes and gravitational waves from deep space
- (d) To monitor the ozone depletion and atmospheric changes on Earth from space

Answer: (a) To explore and map the very boundaries of the heliosphere

Explanation:

In NEWS: NASA IMAP to show how solar particles are energised and shield us

Interstellar Mapping and Acceleration Probe (IMAP):

● IMAP was launched by NASA on September 24 to study the heliosphere's boundary and trace energetic particles. **Hence option (a) is correct.**

● The spacecraft is equipped with 10 scientific instruments, including neutral atom detectors (IMAP-Lo, Hi, Ultra) and sensors for magnetic fields, dust, and solar-wind particles.

● IMAP will operate from the Sun–Earth Lagrange Point 1 (L1), about 1.6 million km from Earth, enabling stable observation with minimal fuel use.

IMAP aims to:

- Map the heliosphere's outer boundary (heliopause)
- Track particle acceleration and movement
- Observe solar wind–interstellar medium interactions
- IMAP-Lo will detect interstellar hydrogen and deuterium, possibly distinguishing primary vs. secondary atomic populations at the heliopause.

Applications & Impacts

IMAP data will:

- Improve space weather forecasting
- Aid in protecting satellites and astronauts
- Enhance knowledge of solar system shielding from cosmic rays

PYQ REFERENCE: (2017)

Q. What is the purpose of 'evolved Laser Interferometer Space Antenna' (eLISA) project?

- (a) To detect neutrinos
- (b) To detect gravitational waves**
- (c) To detect the effectiveness of missile defence system
- (d) To study the effect of solar flares on our communication systems

Source: <https://www.thehindu.com/sci-tech/science/nasa-imap-to-show-how-solar-particles-are-energised-and-shield-us/article70112607.ece#:~:text=Based%20on%20mission%20design%20and,are%20energised%20in%20the%20heliosphere.>

35. Supermoon

35. Consider the following statements:

Statement I: During a supermoon, the moon appears larger up to 14% bigger and brighter up to 30% brighter than a typical full moon.

Statement II: The moon's orbit around Earth is elliptical, causing variations in its distance.

Statement III: Supermoons can influence tidal forces slightly, leading to higher tides known as "perigean spring tides."

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
- (b) Both Statement II and Statement III are correct but only one of them explains Statement I
- (c) Only one of the Statements II and III is correct and that explains Statement I
- (d) Neither Statement II nor Statement III is correct

Answer: (b) Both Statement II and Statement III are correct but only one of them explains Statement I

Explanation:

In NEWS: What is a supermoon?



Supermoon:

- A **supermoon** occurs when a full moon coincides with the moon's closest approach to Earth in its elliptical orbit, called **perigee**.
- During a supermoon, the moon appears **larger (up to 14% bigger)** and **brighter (up to 30% brighter)** than a typical full moon. **Hence statement I is correct.**
- The moon's orbit around Earth is **elliptical**, causing variations in its distance; **perigee** is the nearest point, and **apogee** is the farthest. **Hence statement II is correct and explains statement I**
- Supermoons are **visible to the naked eye** and do not require telescopes or special equipment.
- These events are **relatively rare** and occur only when the timing of the full moon and perigee coincide.
- Supermoons can influence **tidal forces** slightly, leading to higher tides known as "**perigean spring tides.**" **Hence statement III is correct but it is not the justification for statement I**
- Supermoon events are often associated with **cultural and religious festivals** in many parts of the world.
- The next supermoon dates can be predicted and are published by **astronomical organizations** and observatories.

PYQ REFERENCE: (2013)

Q. Consider the following phenomena:

1. Size of the sun at dusk
2. Colour of the sun at dawn
3. Moon being visible at dawn
4. Twinkle of stars in the sky
5. Polestar being visible in the sky

Which of the above are optical illusions?

- (a) 1, 2 and 3
- (b) 3, 4 and 5
- (c) 1, 2 and 4**
- (d) 2, 3 and 5

Source: <https://www.thehindu.com/sci-tech/science/what-is-a-supermoon/article70133754.ece>

36. PUNCH Mission

36. The PUNCH mission, recently in the news, is associated with which among the following?

- (a) Deep-sea exploration
- (b) Solar and heliospheric studies
- (c) Planetary geology
- (d) Satellite communication technology

Answer: (b) Solar and heliospheric studies

Explanation:

In NEWS: Making the invisible visible with PUNCH

PUNCH Space Mission:

- PUNCH stands for **Polarimeter to Unify the Corona and Heliosphere**.
- It is a **NASA mission** to study how the **Sun's corona transitions into the solar wind**.
- The mission will help understand the **Sun-Earth connection** and **space weather**.
- It consists of **four microsatellites** working together to image the **solar corona and heliosphere**.
- The satellites will use **polarimetric imaging** to create 3D views of the Sun's outer atmosphere.
- **Launch:** Will take place on an **ISRO PSLV rocket** from **Sriharikota (India)**.
- The mission is managed by **NASA's Goddard Space Flight Center** and led by the **Southwest Research Institute (SwRI)**.
- It marks a **NASA-ISRO collaboration** in **solar and heliophysics research**.
- The mission will improve prediction of **solar storms and space weather impacts** on Earth.

Hence option (b) is correct.

PYQ REFERENCE:

Q. What is the purpose of the 'evolved Laser Interferometer Space Antenna (eLISA)' project?

- (a) To detect neutrinos
- (b) To detect gravitational waves
- (c) To detect the effectiveness of missile defence system
- (d) To study the effect of solar flares on our communication systems

Source: <https://www.thehindu.com/news/national/kerala/making-the-invisible-visible-with-punch/article70171179.ece>

37. India's Advanced Medium Combat Aircraft (AMCA)

37. With reference to India's Advanced Medium Combat Aircraft (AMCA), consider the following statements:

1. It is a twin-engine stealth multirole fighter being developed by ISRO.
2. India is the fourth nation to develop fifth-generation fighter technology after the U.S., China, and Russia.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:

In NEWS: Russia backs AMCA programme, offers to make Su-57 jets in India

India's Advanced Medium Combat Aircraft (AMCA):

- The **Advanced Medium Combat Aircraft (AMCA)** is India's **indigenous fifth-generation multirole stealth fighter jet project**.
- It is being **developed by the Aeronautical Development Agency (ADA)** under the **Defence Research and Development Organisation (DRDO)**. **Hence statement 1 is incorrect.**
- The **production partner** for AMCA is **Hindustan Aeronautics Limited (HAL)** along with private industries.
- The **Cabinet Committee on Security (CCS)** approved the **prototype development** of the AMCA in **2025**.
- The AMCA will be a **twin-engine, single-seat, all-weather, multirole fighter aircraft**.

Key Features and Technologies

- It will feature **stealth design**, internal weapons bays, and **radar-absorbing materials** to reduce radar cross-section (RCS).
- The aircraft will have **supercruise capability**, **3D thrust vectoring**, and **supermaneuverability**.
- It will be equipped with **Active Electronically Scanned Array (AESA) radar**, **advanced avionics**, and **electronic warfare systems**.
- The AMCA's **first flight** is expected around **2028-29**, and **induction** is targeted in the **early 2030s**.
- It will **complement the LCA Tejas, TEDBF (Twin Engine Deck Based Fighter)**, and **Su-30MKI** in India's air fleet.
- The AMCA will **replace ageing aircraft** like **MiG-29, Mirage 2000, and Jaguar**.
- The aircraft will enhance India's **air superiority, deep strike, and stealth warfare capabilities**.
- The AMCA project is a key step toward **Atmanirbhar Bharat** and **defence indigenisation**.
- The AMCA will have **two stages of production** – **Mk1 (5th generation)** and **Mk2 (5.5-6th generation)**.
- The aircraft's development involves **composite materials** to reduce weight and radar visibility.
- The **fly-by-wire flight control system** will ensure stability and agility during combat.
- The **digital cockpit** will include **AI-assisted decision systems** and **sensor fusion technology**.
- The AMCA will be capable of **air-to-air, air-to-ground, and electronic warfare missions**.
- It is designed for **high survivability, situational awareness, and network-centric warfare**.
- The AMCA will place India among nations with **indigenous fifth-generation fighter technology** (alongside the U.S., China, and Russia). **Hence statement 2 is correct.**
- The aircraft is a **critical component** of India's future air power strategy and **self-reliance in aerospace defence**.
- The **Aeronautical Development Agency (ADA)** had earlier designed the **LCA Tejas**, providing technological groundwork for AMCA.

PYQ REFERENCE: (2024)

Q. Consider the following aircraft:

1. Rafael
2. MiG-29
3. Tejas MK-1

How many of the above are considered fifth generation fighter aircraft?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Source: <https://www.thehindu.com/news/international/russia-backs-amca-programme-offers-to-make-su-57-jets-in-india/article70172168.ece#:~:text=Russia%20reaffirmed%20its%20commitment%20to.57%20fifth%20generation%20fighter%20jet>

38. INS Androth

38. Which one of the following is the best description of 'INS Androth', that was in the news recently?

- (a) A nuclear-powered submarine designed for long-range strategic deterrence.
- (b) An indigenously built Anti-Submarine Warfare Shallow Water Craft of the Indian Navy.
- (c) A guided-missile destroyer equipped with advanced radar systems.
- (d) A new offshore patrol vessel for the Indian Coast Guard.

Answer: (b) An indigenously built Anti-Submarine Warfare Shallow Water Craft of the Indian Navy.

Explanation:

In NEWS: Indian Navy to commission INS Androth on October 6

INS Androth:

- INS Androth is the **second ship** of the Arnala-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) being built for the Indian Navy. **Hence option (b) is correct.**
- It has been **constructed by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata** under the "Make in India" initiative.
- The ship is named after **Androth Island**, one of the islands in the Lakshadweep archipelago.
- INS Androth is designed for **anti-submarine operations in shallow waters, coastal surveillance, and mine-laying.**
- It is equipped with **indigenous rocket launchers, torpedoes, and advanced sonar systems** for submarine detection and engagement.
- The vessel features **diesel engines with water-jet propulsion**, providing a **maximum speed of around 25 knots.**
- It has a **length of about 77.6 metres** and a **displacement of nearly 900 tonnes.**
- More than **80% of the ship's components are indigenously manufactured**, highlighting India's defence self-reliance.
- The ship was **delivered to the Indian Navy in September 2025** and **commissioned at Visakhapatnam** in October 2025.
- The Arnala-class ships replace the older **Abhay-class ASW corvettes**, enhancing India's **littoral and coastal defence capabilities.**
- These ships contribute to strengthening India's **Underwater Domain Awareness (UDA)** and **anti-submarine warfare network** in the Indian Ocean Region.

PYQ REFERENCE: (2016)

Q. Which one of the following is the best description of 'INS Astradharini', that was in the news recently?

- (a) Amphibious warfare ship
- (b) Nuclear-powered submarine
- (c) Torpedo launch and recovery vessel**
- (d) Nuclear-powered aircraft carrier

Source: <https://www.thehindu.com/news/national/indian-navy-to-commission-ins-androth-on-october-6/article70128008.ece>

39. 'Saksham'

39. What is 'Saksham', recently inducted in the Indian Army?

- (a) An indigenous anti-tank missile system
- (b) A counter-unmanned aerial system designed to detect, track, and neutralize hostile drones
- (c) A satellite communication system for secure military communications
- (d) A new type of armored personnel carrier

Answer: (b) A counter-unmanned aerial system designed to detect, track, and neutralize hostile drones

Explanation:

In NEWS: Army inducts 'Saksham' to neutralise aerial threats

Saksham:

- Saksham is an indigenously developed **Counter-Unmanned Aerial System (CUAS)** by India. **Hence option (b) is correct.**
- It is designed to **detect, track, identify, and neutralize hostile drones and unmanned aerial threats.**
- The system operates in real time to provide comprehensive airspace security.
- Saksham covers the **Tactical Battlefield Space (TBS)**, including the Air Littoral up to 3,000 meters altitude.
- The Indian Army has initiated procurement of the Saksham CUAS to strengthen operational readiness.
- It plays a critical role in countering emerging aerial threats on the modern battlefield.
- Saksham enhances India's defense capabilities against drone incursions and unmanned attacks.

PYQ REFERENCE: (2025)

Q. With reference to Unmanned Aerial Vehicles (UAVs), consider the following statements:

- I. All types of UAVs can do vertical landing.
- II. All types of UAVs can do automated hovering.
- III. All types of UAVs can use battery only as a source of power supply.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All the three
- (d) None**

Source: <https://www.thehindu.com/news/national/indian-army-inducts-indigenous-saksham-counter-uas-grid-to-secure-tactical-battlefield-space/article70143459.ece>

40. Poseidon

40. Consider the following statements:

Statement I: An Unmanned Underwater Vehicle (UUV) can be designed to operate using nuclear power and may also carry a nuclear weapon.

Statement II: Recently, Russia tested its Nuclear-Powered Underwater Drone named Poseidon.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

Answer: (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation:

In NEWS: Russia Tests Nuclear-Powered Poseidon Underwater Drone

Poseidon:

- Poseidon, also known by its development code names **Status-6 or Kanyon**, is an **unmanned underwater vehicle (UUV)** that **Russia** says is both nuclear-powered and nuclear-armed.
- It's designed to travel autonomously for extremely long distances underwater — potentially across oceans — using a miniaturized nuclear reactor for propulsion.
- The weapon can reportedly carry a nuclear warhead of multi-megaton yield, capable of destroying coastal cities, ports, or naval bases.

- Its size and specifications are classified, but estimates suggest it is about **20 m long and 2 m wide** — roughly the size of a small submarine.
- Russia claims it can travel at **speeds of up to 200 km/h** and operate at depths over 1 km, making it difficult to detect or intercept.
- Poseidon is unique in combining:
 - Nuclear propulsion (for unlimited underwater range)
 - Nuclear payload (potentially multi-megaton warhead)
 - Autonomous long-range guidance
- Its carrier submarine, the Belgorod, is reportedly capable of launching six Poseidon drones.

Hence both Statement-I and Statement-II are correct and Statement-II explains Statement-I

PYQ REFERENCE: (2025)

Q. With reference to Unmanned Aerial Vehicles (UAVs), consider the following statements:

- I. All types of UAVs can do vertical landing.
- II. All types of UAVs can do automated hovering.
- III. All types of UAVs can use battery only as a source of power supply.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All the three
- (d) None

Source: <https://www.newsonair.gov.in/russia-tests-nuclear-powered-poseidon-underwater-drone/>

41. Tele MANAS

41. Consider the following statements

1. Tele MANAS aims to provide comprehensive mental health services through a digital platform 24/7.
2. It also extends support for caretakers and parents of children and adolescents suffering from developmental disorders.
3. The apex nodal institute for mentoring and monitoring Tele MANAS is NIMHANS.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) None

Answer: (c) Only three

Explanation:

In NEWS: On the occasion of World Mental Health Day 2025, new Initiatives for the Tele MANAS App launched

Tele MANAS:

- Tele MANAS aims to provide comprehensive mental health services through a digital platform namely telephone-based counselling services, psychotherapy, psychiatric consultations and referral services including emergency. **Hence statement 1 is correct.**
- In addition to the steering committees, the Apex Nodal Institute for mentoring and monitoring of Tele MANAS will be NIMHANS. **Hence statement 3 is correct.**
- Video consultations are expected to be initiated soon with an e-prescription facility.
- Tele MANAS is a 24/7 on-demand service available free of cost with ease of access via phone calls, bridging the gap in seeking appropriate mental health assistance.
- In addition, the service provision also includes support for parents and caretakers of children and adolescents suffering from developmental disorders like intellectual disabilities, autism spectrum disorders, ADHD,

and various behavioural and emotional problems. **Hence statement 2 is correct.**

- It is available in 20 Indian languages to cover the diverse needs surpassing cultural and regional differences of the country.

Objectives of Tele MANAS:

- To exponentially scale up the reach of mental health services to anybody who reaches out, across India.
- To implement a full-fledged mental health-service network.
- To extend services to vulnerable groups of the population and difficult to reach populations



Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2177389>

ENVIRONMENT AND AGRICULTURE 42. Carbon Capture and Storage (CCS)

42. Consider the following statements regarding Carbon Capture and Storage (CCS):

1. It involves capturing carbon dioxide directly from the atmosphere for use in industrial applications.
2. Geological formations such as saline aquifers and depleted oil fields can be used for CO₂ storage.
3. CCS can contribute to achieving negative emissions when combined with bioenergy production.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (b) 2 and 3 only

Explanation:

In NEWS: Asia's carbon capture push may jeopardise global climate goals

● A report by global science and policy institute Climate Analytics has warned that Asia's expansive plans for **Carbon Capture and Storage (CCS)** could lead to nearly **25 billion tonnes** of additional **greenhouse gas emissions by 2050**, threatening the **Paris Agreement's 1.5°C** climate target and locking the region into costly and uncompetitive fossil fuel pathways.

Carbon Capture and Storage (CCS)

● Carbon Capture and Storage (CCS) is a **technology aimed at reducing CO₂ emissions** from large point sources (like power plants and industries) by **capturing, transporting, and storing** it underground so **it does not enter the atmosphere**.

Note: capturing carbon dioxide directly from the atmosphere for use in industrial applications is known as "**Direct Air Capture (DAC)**". **Hence statement 1 is incorrect.**

Key Steps

1. Capture:

- CO₂ is separated from industrial or energy-related processes.
- Methods: *Pre-combustion, post-combustion, and oxy-fuel combustion.*

2. Transport:

- Captured CO₂ is compressed and transported (via pipelines, ships, or tankers) to storage sites.

3. Storage:

- CO₂ is injected deep underground into **geological formations** such as:
 - Depleted oil and gas fields
 - Deep saline aquifers
 - Unmineable coal seams

Hence statement 2 is correct.

Objectives & Importance

● **Climate mitigation:** Reduces greenhouse gas emissions to help meet **Paris Agreement** and **net-zero** targets.

● **Supports decarbonization** of hard-to-abate sectors — like cement, steel, and chemical industries.

● Can be combined with **bioenergy (BECCS)** for *negative emissions*.

Hence statement 3 is correct.

Challenges

- **High cost** of capture and infrastructure.
- **Energy-intensive** process (reduces overall efficiency).
- **Risk of leakage** from storage sites.
- **Public opposition** due to safety and environmental concerns.

PYQ REFERENCE:

Q. Consider the following activities:

1. Spreading finely ground basalt rock on farmlands extensively
2. Increasing the alkalinity of oceans by adding lime
3. Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters

How many of the above activities are often considered and discussed for carbon capture and sequestration?

- (a) Only one
- (b) Only two
- (c) All three**
- (d) None

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/asias-carbon-capture-push-may-jeopardise-global-climate-goals/article70134208.ece>

43. National Green Hydrogen Mission

43. With reference to National Green Hydrogen Mission, consider the following statements:

- I. The mission provides financial incentives for domestic manufacturing of electrolyzers and green hydrogen production under the Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme
- II. The Deendayal Port Authority, V.O. Chidambaranar Port Authority, and Paradip Port Authority have been declared as Green Hydrogen Hubs under the mission.

Which of the statements given above is/are correct?

- (a) I only
- (b) II only
- (c) Both I and II
- (d) Neither I nor II

Answer: (c) Both I and II

Explanation:

In NEWS: Three Major Ports Recognised as Green Hydrogen Hubs under National Green Hydrogen Mission.

National Green Hydrogen Mission (NGHM):

● Launched By Union Cabinet of India, approved on January 4, 2023

● Objective: **To make India a global hub for the production, use, and export of Green Hydrogen and its derivatives.**

● Green Hydrogen is hydrogen produced using renewable energy (like solar or wind) and electrolysis of water, with zero carbon emissions.

● It is considered a clean fuel that can help decarbonize sectors like industry, mobility, and power.

● The Ministry of New and Renewable Energy (MNRE) has formally recognised three major ports **Deendayal Port Authority (Gujarat), V.O. Chidambaranar Port Authority (Tamil Nadu), and Paradip Port Authority (Odisha)** as Green Hydrogen Hubs under the National Green Hydrogen Mission (NGHM). **Hence statement II is correct.**

Key Components of the Mission:

● Provides financial incentives for **domestic manufacturing of electrolyzers and green hydrogen production under the Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme.**

Hence statement I is correct.

● Pilot Projects in sectors like steel, mobility, shipping, and aviation to test green hydrogen applications.

● To improve the efficiency, cost-effectiveness, and scalability of green hydrogen technologies.

● Skill Development and Awareness - Training programs to build human resource capacity.

PYQ REFERENCE: (2023)

Q. With reference to green hydrogen, consider the following statements:

1. It can be used directly as a fuel for internal combustion.
2. It can be blended with natural gas and used as fuel for heat or power generation.
3. It can be used in the hydrogen fuel cell to run vehicles.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three**
- (d) None

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2177591>

44. Adaptation Gap Report 2025

44. The Adaptation Gap Report 2025 is published by the

- (a) International Monetary Fund
- (b) United Nations Environment Programme
- (c) World Economic Forum
- (d) World Bank

Answer: (b) United Nations Environment Programme

Explanation:

In NEWS: UNEP's Adaptation Gap Report 2025 warns developing nations face an annual adaptation bill of up to US\$365 billion by 2035.

Adaptation Gap Report 2024:

1. The **Adaptation Gap Report** is published annually by the **United Nations Environment Programme (UNEP)**. **Hence option (b) is correct.**
2. The 2024 edition is titled "**Come hell and high water**".
3. The report assesses the **gap between current adaptation efforts and the level required** to manage climate impacts effectively.
4. About **171 countries (around 87%)** have at least one national adaptation plan, policy, or strategy.
5. Despite this, **implementation of adaptation measures remains inadequate and slow.**
6. The **adaptation finance gap** is widening, with developing countries requiring **USD 215–387 billion per year by 2030.**
7. **Current adaptation finance** is estimated to be **five to ten times lower** than what is needed.
8. The report calls for adoption of a strong **New Collective Quantified Goal (NCQG)** on climate finance at **COP29 (Baku 2024)**.
9. It highlights **inequalities**, noting that **poorest and most vulnerable nations** suffer the most from climate impacts.
10. The report stresses the importance of **nature-based and locally led adaptation** approaches.
11. It emphasizes the role of the **private sector** in financing and implementing adaptation measures.
12. **India** has national and state-level adaptation plans, but faces a **significant funding and implementation gap.**
13. The report underscores the need for **technology transfer and capacity building**, especially in developing nations.
14. Overall, it warns that **global adaptation progress is far behind** the pace required to protect communities from worsening climate impacts.

PYQ REFERENCE: (2019)

Q. The Global Competitiveness Report is published by the

- (a) International Monetary Fund
- (b) United Nations Conference on Trade and Development
- (c) World Economic Forum**
- (d) World Bank

Source: <https://www.downtoearth.org.in/climate-change/uneps-adaptation-gap-report-2025-warns-of-deepening-crisis-as-jamaica-reels-from-hurricane-melissa>

45. Wildlife Trust of India (WTI)

45. With reference to Wildlife Trust of India (WTI), consider the following statements:

1. It is a statutory organization established under the Wildlife Protection Act in 1998.
2. It works to conserve wildlife and natural habitats across India through science-based interventions.
3. It plays a key role in mitigating human-wildlife conflict through innovative solutions.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (b) 2 and 3 only

Explanation:

In NEWS: WTI report highlights crucial role played by India's forest protectors

WTI Report on India's Forest Protectors

- Local communities lead forest protection using sustainable practices and traditional knowledge.
- Forest protectors face challenges like lack of recognition, limited resources, and threats from illegal activities.
- WTI recommends legal recognition, capacity building, and formal integration of community protectors.
- Empowering local communities supports effective forest management and aligns with national and global goals.

Wildlife Trust of India (WTI):

- The Wildlife Trust of India (WTI) is a **non-profit conservation organization** established in 1998. **Hence statement 1 is incorrect.**
- WTI works to conserve wildlife and natural habitats across India through science-based interventions. **Hence statement 2 is correct.**
- The organization focuses on rescuing and rehabilitating injured and distressed wildlife.
- WTI collaborates with government agencies, local communities, and other NGOs for effective conservation.
- It engages in research, capacity building, and awareness programs to promote wildlife protection.
- WTI plays a key role in mitigating human-wildlife conflict through innovative solutions. **Hence statement 3 is correct.**
- The organization supports conservation of endangered species and their ecosystems.
- WTI is actively involved in policy advocacy and creating legal frameworks for wildlife protection.

PYQ REFERENCE: (2022)

Q. With reference to Indian laws about wildlife protection, consider the following statements:

1. Wild animals are the sole property of the government.
2. When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
3. Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 only**
- (c) 1 and 3
- (d) 3 only

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/wti-report-highlights-crucial-role-of-indias-forest-protectors/article70154675.ece>

46. Global Action Plan for the Prevention and Control of Non-Communicable Diseases (NCD GAP)

46. "Global Action Plan for the Prevention and Control of Non-Communicable Diseases (NCD GAP)" is an initiative launched by

- (a) World Health Organization (WHO)
- (b) United Nations Development Programme (UNDP)
- (c) World Bank Group (WBG)
- (d) Food and Agriculture Organization (FAO)

Answer: (a) World Health Organization (WHO)

Explanation:

In NEWS: Only three WHO regions on track to achieve 30% tobacco use reduction target

Global Action Plan for the Prevention and Control of Non-Communicable Diseases (NCD GAP):

- **Origin:** Adopted by the World Health Assembly in 2013 (Resolution WHA66.10) as a response to the growing global burden of NCDs.
- **Launched by:** World Health Organization (WHO). **Hence option (a) is correct.**
- **Extension to 2030:** In 2019, the World Health Assembly extended the plan to 2030 to align with the 2030 Agenda for Sustainable Development and to intensify efforts towards achieving Sustainable Development Goal (SDG) 3.4, which aims to reduce premature mortality from NCDs by one-third through prevention and treatment.
- **Implementation Roadmap (2023–2030):** Developed to accelerate progress on preventing and controlling NCDs, this roadmap outlines strategic directions and actions for countries to implement.

Objectives

- **Raise Priority:** Enhance the political priority of NCDs in national health agendas.
- **Strengthen Governance:** Improve national governance mechanisms for NCD prevention and control.
- **Promote Healthy Environments:** Create environments that support healthy lifestyles and reduce exposure to NCD risk factors.
- **Universal Health Coverage (UHC):** Ensure access to essential NCD services and medicines as part of UHC.
- **Strengthen Health Systems:** Enhance health systems to deliver effective NCD prevention, treatment, and care.
- **Monitor Progress:** Develop robust monitoring and evaluation frameworks to track progress and outcomes.

Nine Global Voluntary Targets (for 2025)

- **Tobacco Use:** Reduce the prevalence of tobacco use by 30%.
- **Physical Activity:** Increase physical activity by 10%.
- **Salt Intake:** Reduce mean population salt intake by 30%.
- **Alcohol Consumption:** Reduce the harmful use of alcohol by 10%.
- **Raised Blood Pressure:** Reduce the prevalence of raised blood pressure by 25%.
- **Obesity and Diabetes:** Halt the rise in obesity and diabetes.
- **Drug Therapy and Counseling:** Ensure that 50% of eligible people receive drug therapy and counseling to prevent heart attacks and strokes.
- **Premature Mortality:** Achieve a 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.
- **Essential Medicines:** Ensure 80% availability of affordable essential medicines and basic technologies for NCDs in both public and private facilities.



PYQ REFERENCE:

Q. "Momentum for Change: Climate Neutral Now" is an initiative launched by

- (a) The Intergovernmental Panel on Climate Change
- (b) The UNEP Secretariat
- (c) The UNFCCC Secretariat
- (d) The World Meteorological Organisation

Source: <https://www.downtoearth.org.in/health/only-three-who-regions-on-track-to-achieve-30-tobacco-use-reduction-target>

[47. Graded Response Action Plan](#)

47. The Graded Response Action Plan (GRAP), often seen in the news is related to:

- (a) Regulate water usage during drought conditions
- (b) Control and mitigation of air pollution
- (c) Manage traffic congestion during festivals
- (d) Provide financial aid during natural disasters

Answer: (b) Control and mitigation of air pollution

Explanation:

In NEWS: GRAP Stage 2 curbs kick in as Delhi's air turns 'very poor'

What is GRAP?

● GRAP (Graded Response Action Plan) is a strategic framework implemented in Delhi-NCR to tackle air pollution based on the severity of air quality levels.

● It was notified by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2017 following the directions of the Supreme Court in response to rising pollution in Delhi.

● It is enforced by the Commission for Air Quality Management (CAQM).

Key Measures Under GRAP Stage II:

- **Construction Restrictions:** Prohibition of construction and demolition activities to minimize dust emissions.
- **Vehicle Emission Control:** Enhanced enforcement to curb vehicular emissions, including checks on diesel generator sets.
- **Dust Management:** Mandatory daily mechanical sweeping and water sprinkling on roads to control dust pollution.
- **Fuel Restrictions:** Ban on the use of coal and firewood in industrial and commercial establishments.

GRAP Stage II has been implemented in Delhi as AQI crossed 300.

Measures include:

- Ban on construction activities (except essential projects)
- Enhanced enforcement against dust pollution
- Daily sweeping and water sprinkling
- Restriction on diesel generator use
- **Hence option (b) is correct.**

PYQ REFERENCE: (2022)

Q. In the context of WHO Air Quality Guidelines, consider the following statements:

1. The 24-hour mean of PM_{2.5} should not exceed 15 µg/m³ and annual mean of PM_{2.5} should not exceed 5 µg/m³.
2. In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
3. PM₁₀ can penetrate the lung barrier and enter the bloodstream.
4. Excessive ozone in the air can trigger asthma.

Which of the statements given above are correct?

- (a) 1, 3 and 4
- (b) 1 and 4 only
- (c) 2, 3 and 4
- (d) 1 and 2 only

Source: https://www.thehindu.com/news/cities/Delhi/grap-stage-2-curbs-kick-in-as-delhis-air-turns-very-poor/article70183345.ece#google_vignette

48. Global Forest Resources Assessment (GFRA) 2025

48. With reference to 'Global Forest Resources Assessment (GFRA) 2025', which of the following statements is/are correct?

- I. It is a flagship initiative of the Food and Agriculture Organization (FAO).
- II. It is conducted every two years.
- III. India ranked 3rd in the world in terms of annual forest area gain, indicating continued expansion of forest and tree cover.
- IV. Globally, the rate of loss due to deforestation has slowed compared to the 1990s.

Select the correct answer using the code given below.

- (a) I and II only
- (b) II and III only
- (c) I, III and IV only
- (d) I, II, III and IV

Answer: (c) I, III and IV only

Explanation:

In NEWS: India moves up to 9th Position Globally in Forest Area; Continues to Rank 3rd in Annual Forest Gain

Global Forest Resources Assessment:

● The Global Forest Resources Assessment (FRA) is a flagship program of the **Food and Agriculture Organization (FAO) of the United Nations**.

Hence statement I is correct.

● It provides comprehensive, consistent, and comparable information on the world's forests - their extent, condition, management, and uses.

● The FRA process began in 1948, when FAO conducted the first global assessment of forest resources.

● Initially, the assessments were based on limited data and were updated roughly every 10 years. Since 1990, the FRA has been conducted **every five years**. **Hence statement II is incorrect.**

Key global Findings of FRA 2025:

● Total global forest area: Around 4.14 billion hectares, about 32 percent of the Earth's land area.

● Deforestation continues, but the rate of loss has slowed compared to the 1990s. **Hence statement IV is correct.**

● Net forest loss is still occurring, mainly in tropical regions, though gains are seen in parts of Asia, Europe, and North America.

● Planted forests and restoration efforts are expanding, accounting for roughly 7 percent of global forest area.

● Forests store an estimated 660 billion tonnes of carbon, underlining their crucial role in climate regulation.

● Sustainable forest management has increased, with over half of the world's forests now under a management plan.

India Highlights (FRA 2025):

● India's total forest area: about 72.7 million hectares (roughly 22 percent of its land area).

● India's global rank: now 9th in total forest area (previously 10th).

● **Annual forest area gain: India ranks 3rd in the world**, indicating continued expansion of forest and tree cover. **Hence statement III is correct.**

● India's **forest carbon stock has also increased**, mainly due to large-scale afforestation and reforestation programs.

Regional Trends:

● Asia: Overall forest area is increasing, driven mainly by **gains in China and India**.

● Africa and South America: Continue to experience the **highest rates of deforestation**.

● Europe: Forest area is **stable or slightly increasing**, with high levels of sustainable management.

● North America: Forest area **stable, but wildfire and pest outbreaks remain major challenges**.

PYQ REFERENCE: (2013)

Q. With reference to 'Forest Carbon Partnership Facility', which of the following statements is/are correct?

1. It is a global partnership of governments, businesses, civil society and indigenous peoples.
2. It provides financial aid to universities, individual scientists and institutions involved in scientific forestry research to develop eco-friendly and climate adaptation technologies for sustainable forest management.
3. It assists the countries in their 'REDD+ (Reducing Emissions from Deforestation and Forest Degradation+)' efforts by providing them with financial and technical assistance.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2181416>

49. IMO's Global Shipping Carbon Tax

49. Consider the following statements with respect to the Global Shipping Carbon Tax:

- I. The Global Shipping Carbon Tax falls under the Paris Agreement directly.
- II. The International Maritime Organization (IMO) is the main global body setting Green House Gas regulation for it.

Which of the statements given above is/are correct?

- (a) I only
- (b) II only
- (c) Both I and II
- (d) Neither I nor II

Answer: (b) II only

Explanation:

In NEWS: Governments at the International Maritime Organization (IMO) agreed to delay the planned adoption of the Net-Zero Framework (NZF) for one year

IMO's Global Shipping Carbon Tax:

● The International Maritime Organization (IMO) is introducing a global carbon pricing mechanism for international shipping.

● It aims to **cut greenhouse gas (GHG) emissions and reach net-zero by around 2050**.

● The mechanism is expected to **cover large ocean-going ships** (e.g., over 5,000 gross tonnage) engaged in international trade.

● Ships pay fees based on fuel GHG intensity ("well-to-wake" lifecycle emissions).

● Cleaner fuels = lower or no fees; **dirtier fuels = higher fees**.

● Includes "**feebate**" credits for efficient ships, credits can be traded or banked.

● The international shipping sector **does not fall under the Paris Agreement directly** (for the most part) so IMO is the main global body setting GHG regulation for it. **Hence statement I is incorrect and statement II is correct.**

India and the Global Shipping Carbon Tax:

● India is among the 63 countries that reportedly **supported the first-ever global carbon tax** on shipping indicating India is on board.

- For Indian shipping companies / exporters/importers: shipping costs may increase (if their vessels emit above thresholds). This could translate into higher freight or cost of goods.

- Ports in India will likely be required to support low/zero-carbon fuels, bunkering infrastructure (e.g., ammonia, methanol, hydrogen, biofuels) — this is an opportunity and challenge.

The International Maritime Organization (IMO):

- The International Maritime Organization (IMO) is a **specialized agency of the United Nations**.

- IMO is responsible for setting global standards for the safety, security, and environmental performance of international shipping.

- India is a founding member of the International Maritime Organization.

- The **headquarters of the IMO is located in Geneva, Switzerland**.

- The **MARPOL convention, under IMO, deals with pollution from ships**.

- IMO enforces the **SOLAS convention**, which focuses on the safety of life at sea.

- IMO has the power to impose fines and sanctions on member countries.

PYQ REFERENCE: (2024)

Q. Consider the following statements :

Statement-I : The European Parliament approved the Net-Zero Industry Act recently.

Statement-II : The European Union intends to achieve carbon neutrality by 2040 and therefore aims to develop all of its own clean technology by that time.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I

(c) Statement-I is correct, but Statement-II is incorrect

(d) Statement-I is incorrect, but Statement-II is correct

Source: <https://www.offshore-energy.biz/imo-delays-adoption-of-shipping-carbon-tax-in-might-is-right-show/>

50. World Heritage Outlook

50. Consider the following statements:

I. The World Heritage Outlook is a global assessment system that evaluates the conservation status of all natural World Heritage sites.

II. It is published by the United Nations Educational, Scientific and Cultural Organization (UNESCO)

III. The Sundarbans National Park (India) is listed as a UNESCO World Heritage Site for its unique biodiversity and ecosystem services.

Select the correct answer using the code given below.

(a) I and II only

(b) III only

(c) I, and III only

(d) I, II and III

Answer: (c) I, and III only

Explanation:

In NEWS: Climate change, diseases threaten Sundarbans National Park, latest IUCN World Heritage Outlook reveals

World Heritage Outlook:

- The **IUCN World Heritage Outlook** is a global assessment system that evaluates the **conservation status of all natural World Heritage sites**.

Hence statement I is correct.

- It is published by the **International Union for Conservation of Nature (IUCN)** every few years. **Hence statement II is incorrect.**

- The assessment categories are - **“Good,” “Good with some concerns,” “Significant concern,” and “Critical.”**

- The Outlook assesses sites based on **current state, threats, and management effectiveness**.

- It helps track progress toward achieving the **UNESCO World Heritage Convention’s goal of preserving sites with Outstanding Universal Value (OUV)**.

- The 2025 Outlook warns that **one-third of natural heritage sites** face significant or critical threats.

- The report also notes a rise in threats from **diseases, invasive species, and extreme weather events**.

- The **Sundarbans National Park (India)** is part of the **largest mangrove forest ecosystem in the world**, shared with Bangladesh.

Hence statement III is correct.

- It is listed as a **UNESCO World Heritage Site** for its unique biodiversity and ecosystem services.

PYQ REFERENCE: (2014)

Q. Consider the following international agreements

1. The International Treaty on Plant Genetic Resources for Food and Agriculture

2. The United Nations Convention to Combat Desertification

3. The World Heritage Convention

Which of the above has/have a bearing on the biodiversity?

(a) 1 and 2 only

(b) 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Source:

<https://www.downtoearth.org.in/wildlife-biodiversity/climate-change-diseases-threaten-sundarbans-national-park-latest-iucn-world-heritage-outlook-reveals>

51. Dark Sky Reserve

51. Consider the following statements :

Statement-I: The Hanle Dark Sky Reserve is India’s first officially recognized dark sky reserve, located in the remote Himalayan region of Ladakh.

Statement-II: The Hanle region has minimal light pollution, low atmospheric moisture, and clear skies for over 260 nights per year.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

(c) Statement-I is correct but Statement-II is incorrect

(d) Statement-I is incorrect but Statement-II is correct

Answer: (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

Explanation:

In NEWS: Hanle protects its dark skies and builds a future on stargazing

The Hanle Dark Sky Reserve:

- The Hanle Dark Sky Reserve is India’s first officially recognized dark sky reserve, located in the remote Himalayan region of Ladakh (Union Territory of India).

- It’s one of the best places in the world for stargazing, astronomical research, and astrophotography due to its exceptionally clear and unpolluted night skies.

- The Hanle region has minimal light pollution, low atmospheric moisture, and clear skies for over 260 nights per year. **Hence both Statement-I and**

Statement-II are correct and Statement-II is the correct explanation for Statement-I

- It hosts the Indian Astronomical Observatory (IAO), one of the world's highest observatories.
- The reserve is designed to preserve the natural night sky and promote astro-tourism while protecting local wildlife and culture.
- **The IAO, Hanle, houses major telescopes:**
 - Himalayan Chandra Telescope (HCT) — a 2-meter optical-infrared telescope.
 - GROWTH-India Telescope — for time-domain astronomy (observing transient events like supernovae).
 - Upcoming facilities like the National Large Optical Telescope (NLOT) are planned nearby.
- **Managed by:**
 - Indian Institute of Astrophysics (IIA)
 - Ladakh Autonomous Hill Development Council (LAHDC)
 - Department of Science & Technology (DST), Government of India

PYQ REFERENCE: (2025)

Q. Consider the following space missions:

1. Axiom-4
2. SpaDeX
3. Gaganyaan

How many of the space missions given above encourage and support micro-gravity research?

- A) Only one
- B) Only two
- C) All the three**
- D) None

Source: <https://www.thehindu.com/sci-tech/science/hanle-protects-its-dark-skies-and-builds-a-future-on-stargazing/article70204567.ece>

52. World Heritage Outlook

52. The World Heritage Outlook is released by:

- (a) UNEP
- (b) UNDP
- (c) UNESCO
- (d) IUCN

Answer: (d) IUCN

Explanation:

In NEWS: Why has IUCN red-flagged the Western Ghats?

World Heritage Outlook 4 Report (2025)

- The **International Union for Conservation of Nature (IUCN)** released its **World Heritage Outlook 4 Report** in 2025. **Hence option (d) is correct.**
- It assesses the **conservation status of over 200 natural and mixed World Heritage Sites** across the world.
- The report classifies sites into four categories — “Good”, “Good with some concerns”, “Significant concern”, and “Critical”.
- The **percentage of sites with a positive conservation outlook** has declined for the first time since 2014 — from **63% (2014–2020)** to **57% (2025)**.

India-specific Findings

- The **Western Ghats, Manas National Park (Assam), and Sundarbans National Park (West Bengal)** have been placed in the “**Significant Concern**” category.
- **Khangchendzonga National Park (Sikkim)** is rated as “**Good**”, while **Kaziranga, Keoladeo, Nanda Devi & Valley of Flowers, and Great Himalayan National Park** are categorised as “**Good with Some Concerns.**”

53. Conventional on Biological Diversity

53. Consider the following statements regarding the Convention on Biological Diversity (CBD):

1. It is an international legally binding treaty adopted at the Rio Earth Summit in 1992.
2. It recognizes biological resources over national sovereignty as the common heritage of mankind.
3. India is a party to the convention since 1994.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

Answer: (a) 1 and 3 only

Explanation:

In NEWS: Panama meeting: Parties fail to agree on text of recommendations for Conventional on Biological Diversity

Convention on Biological Diversity (CBD):

- The **Convention on Biological Diversity (CBD)** is an **international legally binding treaty** adopted at the **Rio Earth Summit in 1992** (entered into force in **1993**). **Hence statement 1 is correct.**
- **Secretariat:** Based in **Montreal, Canada.**
- **India** is a party to the convention since **1994**. **Hence statement 3 is correct.**

Objectives of the CBD

- **Conservation** of biological diversity.
- **Sustainable use** of its components.
- **Fair and equitable sharing** of benefits arising from the use of genetic resources (Access and Benefit Sharing – **ABS**).

Key Features

- Recognizes **national sovereignty** over biological resources (not a global commons). **Hence statement 2 is incorrect.**
- Promotes **in-situ** (protected areas, biosphere reserves) and **ex-situ** (seed banks, gene banks) conservation.
- Encourages **traditional knowledge protection** and **indigenous community participation.**
- The **Cartagena Protocol (2000)** deals with **biosafety and LMOs** (Living Modified Organisms).
- The **Nagoya Protocol (2010)** focuses on **Access and Benefit Sharing (ABS)** mechanisms.
- The **Kunming-Montreal Global Biodiversity Framework (GBF)** (adopted in **2022**) replaced the Aichi Targets (2010–2020), setting new global goals for 2030.

India's Implementation

- Enacted the **Biological Diversity Act, 2002.**
- Established the **National Biodiversity Authority (NBA)** at Chennai.
- Prepared **National Biodiversity Action Plan (NBAP)** and **People's Biodiversity Registers (PBRs).**

PYQ REFERENCE: (2014)

Q. With reference to 'Global Environment Facility', which of the following statements is/are correct?

- (a) It serves as financial mechanism for 'Convention on Biological Diversity' and 'United Nations Framework Convention on Climate Change'
- (b) It undertakes scientific research on environmental issues at global level
- (c) It is an agency under OECD to facilitate the transfer of technology and funds to underdeveloped countries with specific aim to protect their environment
- (d) Both (a) and (b)

Source: <https://www.downtoearth.org.in/wildlife-biodiversity/panama-meeting-parties-fail-to-agree-on-text-of-recommendations-for-conventional-on-biological-diversity>

54. IUCN's list of natural World Heritage sites

54. Consider the following statements regarding the IUCN World Heritage Outlook 4 report and India's natural World Heritage sites:

1. The Western Ghats, Sundarbans, and Manas National Park have been categorised as sites of "significant concern" in the latest IUCN report.
2. The four primary threats to natural World Heritage sites in South Asia are climate change, tourism, invasive alien species, and roads/railways.
3. Protected areas in South Asia now show an increasing positive conservation outlook compared to previous assessments.
4. Exotic species such as eucalyptus and acacia are native to the Western Ghats and contribute positively to biodiversity.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 1, 2, and 3 only
- (c) 2 and 4 only
- (d) 1, 2, and 4 only

Answer: (a) 1 and 2 only

Explanation:

In NEWS: Why has IUCN red-flagged the Western Ghats?

- The IUCN's World Heritage Outlook 4 report released earlier this month attributes four threats to the loss of habitats and species in South Asia: **climate change, tourism activities, invasive alien species, and roads.**
 - The report categorises the natural sites as "good", "good with some concerns", "significant concern", and "critical".
 - The expansive Western Ghats and two national parks in India - Assam's Manas national park and West Bengal's Sundarbans national park have been categorised as being of "significant concern" in the International Union for Conservation of Nature's (IUCN) list of natural World Heritage sites across Asia.
1. The **Western Ghats, Sundarbans National Park, and Manas National Park** have all been officially categorized as sites of "**significant concern**" in the latest IUCN World Heritage Outlook 4 report, meaning **Statement 1 is correct**. This designation reflects the serious pressures these biodiversity hotspots are currently facing.
 2. The report specifically identifies **climate change, tourism, invasive alien species, and roads/railways** as the four dominant threats impacting the conservation status of natural World Heritage sites across South Asia, making **Statement 2 correct**.
 3. Contrary to Statement 3, the overall trend revealed by the report shows a **decline** in the global conservation health of natural sites, with a **decreasing percentage** of sites having a positive conservation outlook compared to previous assessments, which means **Statement 3 is incorrect**.
 4. **Statement 4 is incorrect** because species like **eucalyptus** and **acacia** are **exotic** (non-native) trees, introduced to the Western Ghats for commercial plantations, and they are now classified as **Invasive Alien Species** that severely threaten native flora, such as the *shola* grasslands, and thus **do not contribute positively** to biodiversity

PYQ REFERENCE:

Q. Which of the following is a World Heritage Site located in India?

- (a) Mount Fuji
- (b) Chichen Itza
- (c) Red Fort
- (d) Eiffel Tower

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/why-has-iucn-red-flagged-the-western-ghats-explained/article70178487.ece#:~:text=The%20story%20so%20far%3A%20The,World%20Heritage%20sites%20across%20Asia>

55. Araneus nox

55. Regarding *Araneus nox* (Leathery Garden Orb-weaver), consider the following statements:

- I. It spins a large, vertical orb-shaped web to catch flying insects.
- II. It is primarily a ground-dwelling spider found in deserts.
- III. It was first recorded in India from the Idukki Wildlife Sanctuary.

Which of the statements given above is/are correct?

- (a) I only
- (b) I and III
- (c) II only
- (d) II and III

Answer: (b) I and III

Explanation:

In NEWS: Survey in Idukki sanctuary reports first record of spider species *Araneus nox* in India

Araneus nox:

- *Araneus nox*, commonly known as the **Leathery Garden Orb-weaver**, belongs to the family **Araneidae** (orb-weaving spiders).
- It is commonly known as the Leathery Garden Orb-weaver, due to the leathery texture of its abdomen.
- Like other orb-weavers, it spins a large, vertical orb-shaped web to catch flying insects. **Hence statement I is correct.**
- *Araneus nox* has a known distribution across Southeast Asia, including countries such as the Philippines, Malaysia, Indonesia (Sumatra, Riau), Myanmar, Singapore, Thailand.
- Before 2025, it had not been recorded from India. The recent survey in Idukki Wildlife Sanctuary (Kerala) is the first confirmed record in India. **Hence statement III is correct.**



- Habitat: It is found in primary and secondary forests.
- It is an arboreal species, constructing webs between trees and shrubs, typically above ground level. **Hence statement II is incorrect.**
- The egg sac is quite interesting: it's dome-shaped, uses fine yellow silk, overlaid with a coarse (wider spaced), wavy mesh of golden silk.
- As of now, *Araneus nox* has not been assessed by the IUCN Red List.

PYQ REFERENCE: (2025)

Q. Regarding Peacock tarantula (Gooty tarantula), consider the following statements:

- I. It is an omnivorous crustacean.
- II. Its natural habitat in India is only limited to some forest areas.
- III. In its natural habitat, it is an arboreal species.

Which of the statements given above is/are correct?

- (a) I only
- (b) I and III
- (c) II only
- (d) II and III

Source: <https://www.thehindu.com/news/national/kerala/survey-in-idukki-sanctuary-reports-first-record-of-spider-species-araneus-nox-in-india/article70143681.ece>

56. Global Tipping Points

56. The term “Hothouse Earth” sometimes seen in the news, is used to describe which among the following?

- (a) A planet with rising agricultural productivity
- (b) A self-sustaining cycle of global warming due to multiple tipping points
- (c) An increase in ozone depletion events
- (d) A temporary climatic fluctuation

Answer: (b) A self-sustaining cycle of global warming due to multiple tipping points

Explanation:

In NEWS: Earth’s ‘New Reality’ as first climate tipping point is crossed

Global Tipping Points:

- **Tipping Point** refers to a **critical threshold** where a small change can lead to **large, often irreversible shifts** in the Earth’s climate or ecosystems.
- Once crossed, these changes **self-perpetuate** and are **difficult or impossible to reverse**, even if human pressures (like greenhouse gas emissions) are reduced.
- Crossing one tipping point can **trigger others**, creating a **cascade effect**.
- Scientists warn that multiple tipping points are **interconnected**, increasing the risk of a **“Hothouse Earth” scenario** — a self-reinforcing cycle of global warming. **Hence option (b) is correct.**
- Urgent mitigation efforts (like limiting warming to **1.5°C**) are crucial to **avoid crossing** dangerous thresholds.

Types of Tipping Points

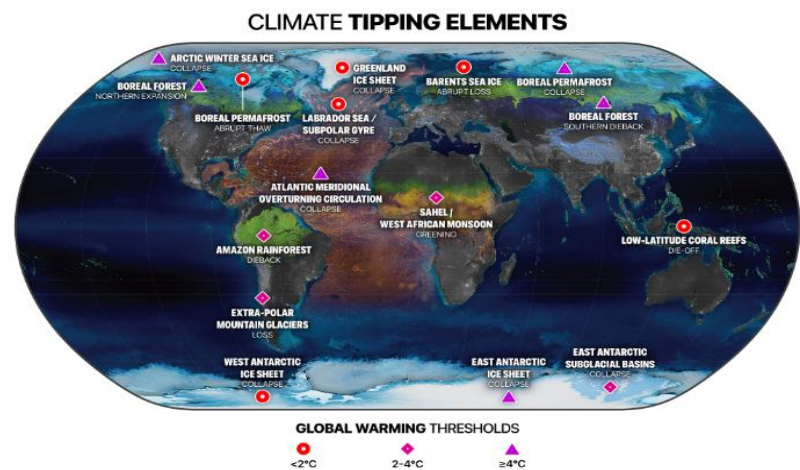
A. Climate System Tipping Points

- Related to **Earth’s physical climate systems**.
- Examples:
 1. **Greenland Ice Sheet melt** – could raise global sea levels by 7m.
 2. **West Antarctic Ice Sheet collapse** – adds ~3m sea level rise.
 3. **Atlantic Meridional Overturning Circulation (AMOC) slowdown** – affects monsoons and temperature regulation.
 4. **Arctic Sea Ice loss** – amplifies global warming due to albedo effect.
 5. **Amazon Rainforest dieback** – shifts to savannah, releases huge carbon stocks.
 6. **Permafrost thawing** – releases methane, a potent greenhouse gas.

B. Biosphere Tipping Points

- Related to **ecosystem collapse or transformation** due to climate and human pressures.
- Examples:
 - **Coral reef bleaching**
 - **Boreal forest dieback**
 - **Freshwater system collapse**

○ **Ocean acidification**



PYQ REFERENCE: (2016)

Q. The term ‘Intended Nationally Determined Contributions’ is sometimes seen in the news in the context of

- (a) pledges made by the European countries to rehabilitate refugees from the war-affected Middle East
- (b) plan of action outlined by the countries of the world to combat climate change
- (c) capital contributed by the member countries in the establishment of Asian Infrastructure Investment Bank
- (d) plan of action outlined by the countries of the world regarding Sustainable Development Goals

Source: <https://www.downtoearth.org.in/climate-change/earth-enters-new-reality-as-first-climate-tipping-point-triggers-unprecedented-coral-reef-dieback>

57. Climate Models

57. Which of the following statements best describes the term ‘Climate Models’?

- (a) Computer simulations that use mathematical equations to represent interactions within Earth’s climate system.
- (b) Instruments that record real-time weather data such as temperature and rainfall.
- (c) Statistical methods focused on analyzing historical climate trends without predicting future changes.
- (d) Simple graphical tools used to monitor daily weather variations in local areas.

Answer: (a) Computer simulations that use mathematical equations to represent interactions within Earth’s climate system.

Explanation:

In NEWS: How do climate models work, how accurate are they?

Climate models:

Climate models are complex computer simulations that use mathematical equations to represent the interactions of major components of the Earth’s climate system:

- Atmosphere
- Oceans
- Land surface
- Ice and snow
- Living organisms (in advanced models) **Hence option (a) is correct.**

These models are used to simulate past, present, and future climate conditions based on physical laws like thermodynamics, fluid dynamics, and radiation balance.

Types & Scales of Climate Models

- **Energy Balance Models (EBMs):** The simplest models that balance incoming solar energy with outgoing heat from the Earth.
- **Radiative-Convective Models (RCMs):** These add the vertical transfer of energy within the atmosphere, improving on EBMs by simulating temperature changes with altitude.

● **General Circulation Models (GCMs) / Global Climate Models:** Complex models that simulate global climate systems, including interactions between the oceans, atmosphere, ice, and land.

● **Regional Climate Models (RCMs):** Higher resolution models that focus on specific geographic regions to capture local climate details more accurately.

Accuracy & Limitations

● Climate models are effective at capturing large-scale, long-term trends such as global temperature rise and sea level increase by comparing model outputs with historical climate data.

● However, models face limitations due to:

● Lack of sufficient observational data in many parts of the world, especially in developing regions.

● Difficulty in accurately representing complex processes like cloud formation, land-atmosphere interactions, and extreme weather events.

● Coarse spatial resolution (typically grid sizes of 100 to 250 km), which limits their ability to simulate fine-scale phenomena such as local rainfall patterns or urban microclimates.

3. The concept of North–South carbon trade is based on the principle of **Common but Differentiated Responsibilities (CBDR)** under international climate agreements. **Hence statement 2 is correct.**

4. The **Clean Development Mechanism (CDM)** under the **Kyoto Protocol (1997)** was the first structured North–South carbon trading mechanism.

5. Under the **Paris Agreement (Article 6)**, countries can exchange **Internationally Transferred Mitigation Outcomes (ITMOs)** — a new form of North–South carbon cooperation.

6. The **North–South carbon market** allows the flow of **finance, investment, and clean technology** from developed to developing countries.

7. The mechanism aims to make **climate mitigation cost-effective** by allowing emission reductions where it is cheaper to achieve them.

8. Critics describe such carbon trade as “**carbon colonialism**”, as it allows developed countries to continue emitting while shifting mitigation responsibility to poorer nations.

9. India is developing its domestic **Carbon Credit Trading Scheme (CCTS)**, which may in future link with international carbon markets. **Hence statement 1 is correct.**

PYQ REFERENCE: (2020)

Q. Which of the following statements best describes the term ‘Social Cost of Carbon’?

It is a measure, in monetary value, of the

(a) long-term damage done by a tonne of CO₂ emissions in a given year.

(b) requirement of fossil fuels for a country to provide goods and services to its citizens, based on the burning of those fuels.

(c) efforts put in by a climate refugee to adapt to live in a new place.

(d) contribution of an individual person to the carbon footprint on the planet Earth.

Source: https://indianexpress.com/article/explained/explained-climate/trump-climate-models-10281843/?ref=explained_pg

58. North - South Carbon Market

58. Which among the following statements is/are correct regarding ‘North - South Carbon Market’?

1. It refers to the trading of carbon credits between developed and developing countries to offset their greenhouse gas emissions.

2. The concept of North–South carbon trade is based on the principle of Common but Differentiated Responsibilities (CBDR) under international climate agreements.

3. India is developing a domestic Carbon Credit Trading Scheme (CCTS) aimed at regulating and incentivizing emission reductions.

Select the correct answer using the code given below:

(a) 2 and 3 only

(b) 2 only

(c) 3 only

(d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

In NEWS: A Start For North and South Carbon market

North–South Carbon Market:

1. The term **North–South Carbon Market** refers to the trading of carbon credits between **developed (Global North)** and **developing (Global South)** countries.

2. Developed countries often **purchase carbon credits** from developing nations to offset their greenhouse gas emissions. **Hence statement 1 is correct.**

PYQ REFERENCE:

Q. Consider the following statements: (2023)

Statement-I: Carbon markets are likely to be one of the most widespread tools in the fight against climate change.

Statement-II: Carbon markets transfer resources from the private sector to the State.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-I Statement-II explains

(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I

(c) Statement-I is correct, but Statement-II is incorrect

(d) Statement-I is incorrect, but Statement-II is correct

Source: <https://www.thehindu.com/opinion/op-ed/a-start-for-north-south-carbon-market-cooperation/article70209291.ece#:~:text=The%20Indian%20carbon%20market%20and%20North%20South%20carbon%20market%20cooperation>

59. Green Crackers

59. Consider the following statements:

Statement I: Genuine green crackers can be identified by specific packaging features.

Statement II: The packaging displays the 'Green Fireworks' logo along with 'CSIR-NEERI' branding.

Statement III: QR code on the packaging provides details about the manufacturer, formulation, and NEERI certification status of the product.

Which one of the following is correct in respect of the above statements?

(a) Both Statement II and Statement III are correct and both of them explain Statement I

(b) Both Statement II and Statement III are correct but only one of them explains Statement I

(c) Only one of the Statements II and III is correct and that explains Statement I

(d) Neither Statement II nor Statement III is correct

Answer: (a) Both Statement II and Statement III are correct and both of them explain Statement I

Explanation:

In NEWS: How to identify genuine 'green' crackers approved for sale in Delhi-NCR?

Green Crackers:

- Green crackers are specially designed fireworks aimed at reducing the environmental impact of traditional firecrackers.
- These eco-friendly alternatives minimize air and noise pollution during festivals like Diwali.

How to Identify Genuine Green Crackers

- **Official Green Fireworks Logo:** Ensure the packaging displays the 'Green Fireworks' logo along with 'CSIR-NEERI' branding.
- **Verified QR Code:** Scan the QR code on the packaging using the 'CSIR-NEERI Green QR Code' mobile app. This will provide details about the manufacturer, formulation, and NEERI certification status of the product.

Hence both Statement II and Statement III are correct and both of them explain Statement I

Types of Green Crackers

There are three primary types, each designed to reduce pollution:

- **SWAS (Safe Water Releaser):** Releases water vapor, reducing particulate emissions by up to 30%.
- **STAR (Safe Thermite Cracker):** Also releases water vapor and produces less noise.
- **SAFAL (Safe Minimal Aluminium):** Uses magnesium instead of aluminum to lower pollutant levels.

Sale and Usage Guidelines

- Green crackers can only be sold by licensed traders at designated sale points.
- Sale is permitted only during specific periods around festivals, usually for a few days.
- Sale of crackers via online platforms is prohibited.

PYQ REFERENCE: (2016)

Q. On which of the following can you find the Bureau of Energy Efficiency Star Label?

1. Ceiling fans
2. Electric geysers
3. Tubular fluorescent lamps

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3**

Source: <https://indianexpress.com/article/cities/delhi/how-to-identify-genuine-green-crackers-approved-for-sale-in-delhi-ncr-10312075/>

60. Lead Pollution

60. Consider the following:

1. Contaminated Soil
2. Informal Battery Recycling
3. Cosmetics
4. E-Waste Recycling
5. Toys

How many of the above are the known sources of lead poisoning?

- (a) Only two
- (b) Only three
- (c) Only four
- (d) All five**

Answer: (d) All five

Explanation:

In NEWS: Lead exposure in children costs world \$3.4 trillion a year, study warns

Lead exposure in Children:

- A new study (published in Communications Earth & Environment) estimates that childhood exposure to lead globally results in \approx US \$3.4 trillion in annual losses.
- That amount corresponds to just over 2 % of global GDP (in 2019).
- The burden is especially heavy in low- and middle-income countries (LMICs), where informal recycling, weak regulation, and continuing sources of lead exposure persist.

Even though leaded petrol has been phased out globally in many places, lead contamination remains widespread via:

- Lead-Based Paints
- Contaminated Soil and Dust
- Lead in Water Pipes and Plumbing
- Informal Battery Recycling (especially lead-acid batteries)
- Industrial Emissions
- Lead-Contaminated Food and Spices
- Traditional Medicines and Cosmetics
- E-Waste Recycling
- Lead-Soldered Cans and Utensils
- Occupational Exposure (workers bringing lead home)
- Aviation Fuel (in piston-engine aircraft)
- Household Items (e.g., toys, ceramics, jewelry)
- Mining and Smelting Activities. **Hence option (d) is correct.**

The health effects on children are severe:

- Lead crosses the placenta and the blood-brain barrier, meaning developing foetuses and young children are particularly vulnerable.
- At low levels, it can reduce IQ, impair brain development, cause behavioural issues.

PYQ REFERENCE: (2020)

Q. Consider the following statements:

1. Coal ash contains arsenic, lead and mercury.
2. Coal-fired power plants release sulphur dioxide and oxides of nitrogen into the environment.
3. High ash content is observed in Indian coal.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3**

Source: <https://www.downtoearth.org.in/health/lead-exposure-in-children-costs-world-34-trillion-a-year-study-warns>

61. Blue Flag Certified beaches in India

61. Consider the following 'Blue Flag Certified beaches':

Name of the Beach	State in India
1. Kappad	Gujarat
2. Shivrajpur	Kerala
3. Kovalam	Tamil Nadu
4. Padubidri	Karnataka

How many of the above pairs are correctly matched?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All the four**

Answer: (b) Only two

Explanation:

In NEWS: Five Maharashtra Beaches Receive Prestigious International Blue Flag Certification. The list includes Shrivardhan and Nagaon beaches in Raigad district, Parnaka in Palghar, and Guhagar and Ladghar beaches in Ratnagiri district.

Blue Flag Certification:

- Blue Flag is an international eco-label awarded by the **Foundation for Environmental Education (FEE) based in Denmark.**
- It recognises beaches and marinas that meet 33 stringent criteria. These criteria focus on environmental education, water quality, safety, environmental management, and public amenities.
- The certification promotes sustainable tourism and environmental conservation.

Criteria for Blue Flag Beaches

- The 33 criteria include maintaining high water quality free from pollution.
- Safety measures such as lifeguards and rescue equipment are mandatory.
- Environmental education programmes must be available for visitors.
- Cleanliness is ensured through waste management and no plastic usage.
- Public facilities like clean toilets and drinking water are essential.
- The beach must also protect natural habitats and biodiversity.

List of Blue Flag Beaches in India (as of October 12, 2025)

1. **Shivrajpur Beach** – Gujarat. **Hence pair 2 is incorrect.**
2. **Ghoghla Beach** – Diu
3. **Kasarkod Beach** – Karnataka.
4. **Padubidri Beach** – Karnataka. **Hence pair 4 is correct.**
5. **Kappad Beach** – Kerala. **Hence pair 1 is incorrect.**
6. **Rushikonda Beach** – Andhra Pradesh
7. **Golden Beach (Puri Beach)** – Odisha
8. **Radhanagar Beach** – Andaman and Nicobar Islands
9. **Kovalam Beach** – Tamil Nadu. **Hence pair 3 is correct.**
10. **Eden Beach** – Puducherry
11. **Minicoy Thundi Beach** – Lakshadweep
12. **Kadmat Beach** – Lakshadweep
13. **Shrivardhan Beach** – Raigad District, Maharashtra
14. **Nagaon Beach** – Raigad District, Maharashtra
15. **Parnaka Beach** – Palghar District, Maharashtra
16. **Guhagar Beach** – Ratnagiri District, Maharashtra
17. **Ladghar Beach** – Ratnagiri District, Maharashtra

PYQ REFERENCE: (2014)

Q. Consider the following pairs

- | | | |
|---------------------------------|----------|--------------------------------------|
| Wetlands | : | Confluence of rivers |
| 1. Harike Wetlands | : | Confluence of Beas and Satluj/Sutlej |
| 2. Keoladeo Ghana National Park | : | Confluence of Banas and Chambal |
| 3. Kolleru Lake | : | Confluence of Musi and Krishna |

Which of the above pairs is/are correctly matched?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source: <https://www.newsonair.gov.in/five-maharashtra-beaches-receive-prestigious-international-blue-flag-certification/>

62. Cryobanking

62. Cryobanking, recently in the news, refers to:

- (a) The preservation of biological materials at ultra-low temperatures to halt metabolic activity.
- (b) The cultivation of marine organisms in cryogenic chambers for research purposes.

- (c) A method of desalinating seawater through freezing and thawing cycles.
- (d) The extraction of minerals from permafrost deposits using low-temperature techniques.

Answer: (a) The preservation of biological materials at ultra-low temperatures to halt metabolic activity.

Explanation:

In NEWS: Philippines pioneers coral larvae cryobank to protect threatened reefs



- The **Philippines** has established the **world's first Coral Larvae Cryobank** — a facility to **freeze and preserve coral larvae** to protect marine biodiversity and aid reef restoration.
- Set up by the **University of the Philippines' Marine Science Institute (UP MSI)** at the **Bolinao Marine Laboratory.**
- Part of a regional collaboration within the **Coral Triangle Initiative**, covering six nations: *Philippines, Indonesia, Malaysia, Papua New Guinea, Solomon Islands, and Timor-Leste.*

Cryobanking:

- **Cryobanking** : Preservation of living cells or tissues at **ultra-low temperatures (-196°C)** using **liquid nitrogen**, halting all biological activity. **Hence option (a) is correct.**
- Used widely in conserving **seeds, animal gametes, and genetic material.**
- In this context, it involves **freezing coral larvae or gametes** to preserve **genetic diversity** for future reef restoration.

Coral Larvae:

- Coral larvae are early life stages that can settle and grow into coral colonies.
- Storing larvae ensures **genetic diversity** and provides a **backup population** against coral reef loss.
- Focus on **Pocilloporid corals** (fast-growing "weedy" species) — ideal for restoration due to quick recovery and reproduction rates.

Significance

1. Biodiversity Conservation

- Coral reefs support **25% of all marine species** despite covering <1% of ocean floor.
- Acts as a **"genetic insurance policy"** for reefs threatened by bleaching, ocean acidification, and pollution.

2. Climate Change Mitigation

- Helps restore **carbon-sequestering ecosystems.**
- Maintains **coastal protection**, reducing erosion and storm damage.

3. Scientific Innovation

- Pioneers **marine cryopreservation technology.**
- Builds **regional research collaboration** and skill-sharing in the Coral Triangle.

4. Supports SDGs

- Aligns with **SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land)** indirectly.

PYQ REFERENCE: (2020)

Q. Which of the following statements best describes the term 'Social Cost of Carbon'?

It is a measure, in monetary value, of the

- (a) long-term damage done by a tonne of CO₂ emissions in a given year.
- (b) requirement of fossil fuels for a country to provide goods and services to its citizens, based on the burning of those fuels.
- (c) efforts put in by a climate refugee to adapt to live in a new place.
- (d) contribution of an individual person to the carbon footprint on the planet Earth.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/philippines-pioneers-coral-larvae-cryobank-to-protect-threatened-reefs/article70127637.ece#:~:text=The%20facility%20will%20freeze%20and.that%20might%20otherwise%20be%20lost>

63. Red Sanders

63. With reference to "Red Sanders" sometimes mentioned in the news, consider the following statements:

- I. It is an evergreen tree.
- II. It is an endemic tree species native to the Southern Eastern Ghats of India.
- III. It is protected under Schedule II of Wildlife (Protection) Act, 1972

Which of the statements given above is/are correct?

- (a) I only
- (b) I and III
- (c) II only
- (d) II and III

Answer: (d) II and III

Explanation:

In NEWS: National Biodiversity Authority sanctions ₹82 Lakh for Red Sanders Conservation in Andhra Pradesh under Access and Benefit Sharing Mechanism

Red Sanders Conservation:

- National Biodiversity Authority (NBA) sanctioned ₹82 lakh to the Andhra Pradesh Biodiversity Board.
- This initiative aims to raise 1 lakh Red Sanders (*Pterocarpus santalinus*) saplings for distribution to farmers.
- This initiative is part of the Trees Outside Forests (ToF) programme.
- It receives funding through the Access and Benefit Sharing (ABS) mechanism under the Biological Diversity Act, 2002 (amended in 2023).
- This initiative ensures benefits reach local communities, individuals, and Biodiversity Management Committees (BMCs).

Red Sanders:

- Red Sanders is a rare and **endemic tree species native to the Southern Eastern Ghats of India**, particularly found in Andhra Pradesh (districts: Chittoor, Kadapa, Anantapur, and Kurnool). **Hence statement II is correct.**
- It is valued for its deep red heartwood, used in high-end furniture, musical instruments, and traditional medicine.
- It is a deciduous tree with hardwood. **Hence statement I is incorrect.**
- It grows in **dry deciduous forests** and on rocky, hilly terrain, and is slow-growing, requiring years to mature.
- Due to its high commercial value, Red Sanders has been subjected to extensive illegal logging and smuggling, both domestically and internationally.
- Listed:
 - Under **Schedule II of Wildlife (Protection) Act, 1972** **Hence statement III is incorrect.**

- In **Appendix II of CITES** – international trade regulated.

PYQ REFERENCE: (2024)

Q. Consider the following :

- 1. Cashew
- 2. Papaya
- 3. Red sanders

How many of the above trees are actually native to India?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2172620>

64. Wombats

64. Consider the following statements regarding Wombats:

- 1. They are burrowing marsupials native to South America.
- 2. They have a backward-facing pouch, which prevents soil from entering while digging.
- 3. They use their whiskers as sensitive tools to navigate dark, narrow burrows, detect food, and communicate with other wombats through touch and smell.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b) Only two

Explanation:

In NEWS: Whiskers for warrens: why wombats have such whiskery snouts

Wombats:

- Wombats are **burrowing marsupials native to Australia**, known for their stout bodies, short legs, and strong claws adapted for digging. **Hence statement 1 is incorrect.**
- They are **herbivores**, feeding mostly on grasses, roots, and bark, and have a slow metabolism that helps them conserve energy.
- Wombats are mostly **nocturnal and solitary**, spending much of the day in their burrows to avoid heat and predators.
- They have a **backward-facing pouch**, which prevents soil from entering while digging. **Hence statement 2 is correct.**
- Wombats play an important ecological role as "ecosystem engineers," creating burrows that provide shelter for other species.
- Wombats use their **whiskers** (a long projecting hair or bristle growing from the face or snout of many mammals.) as sensitive tools to navigate dark, narrow burrows, detect food, and communicate with other wombats through touch and smell. **Hence statement 3 is correct.**
- Hairy-nosed wombats have longer, thicker, and more whiskers than bare-nosed wombats, likely because they live in more complex underground burrow systems (warrens).
- Wombats rely heavily on smell, with a well-developed olfactory system and vomeronasal organ, helping them forage, detect predators, and sense social cues.

PYQ REFERENCE: (2023)

Q. Consider the following statements regarding the Indian squirrels:

1. They build nests by making burrows in the ground.
2. They store their food materials like nuts and seeds in the ground.
3. They are omnivorous.

How many of the above statements are correct?

- (a) Only one
(b) Only two
 (c) All three
 (d) None

Source: <https://www.downtoearth.org.in/wildlife-biodiversity/whiskers-for-warrens-why-wombats-have-such-whiskery-snouts>

65. Painted stork

65. Which of the following organisms uses a distinctive “side-to-side sweeping motion” of the half-open beak in shallow water to catch fish?

- (a) Painted stork
 (b) Indian Nightjar
 (c) White Ibis
 (d) Common Myna

Answer: (a) Painted stork

Explanation:

In NEWS: ‘Kaziranga welcomes an old guest’: Assam celebrates return of painted storks after 4 years

Painted Stork:

- A large wading bird belonging to the stork family (Ciconiidae).
- Recognized by its pink tertiaries, yellow beak, and white plumage with black markings.



Habitat & Distribution

- Found in **tropical Asia, mainly in India, Sri Lanka, Nepal, Myanmar, and parts of Southeast Asia.**
- Prefers freshwater wetlands, marshes, lakes, floodplains, and shallow ponds.
- Often nests in large trees near water bodies — commonly seen with other colonial nesting birds like herons and ibises.

Conservation Status

- IUCN Red List: **Least Concern (LC)**, though previously Near Threatened.
- CITES: **Appendix II** (trade controlled).

- Wildlife (Protection) Act, 1972: **Schedule IV** (protected species in India).

- Population trend: Increasing, though localized declines exist due to habitat loss and pollution.

Unique Features

- Feeding Habit: Uses a distinctive “**side-to-side sweeping motion**” of the half-open beak in shallow water to catch fish. **Hence option (a) is correct.**

- Colonial Nester: Breeds in large communal rookeries with other waterbirds, a sign of wetland health.

- Non-Migratory but Locally Nomadic: Moves seasonally in response to water availability.

- Ecological Role: Acts as a **bio-indicator species** of wetland ecosystem health.

Threats

- Wetland degradation and conversion to agriculture or urban land.
- Pollution and eutrophication and reducing fish populations.
- Disturbance at nesting sites and deforestation near wetlands.

PYQ REFERENCE:

Q. Which of the following organisms perform a waggle dance for others of their kin to indicate the direction and the distance to a source of their food? (2023)

- (a) Butterflies
 (b) Dragonflies
(c) Honey Bees
 (d) Wasps

Q. If you walk through countryside, you are likely to see some birds stalking alongside the cattle to seize the insects disturbed by their movement through grasses. Which of the following is/are such bird/birds? (2014)

1. Painted Stork
2. Common Myna
3. Black-necked Crane

Select the correct answer using the code given below.

- (a) 1 and 2
(b) 2 only
 (c) 2 and 3
 (d) 3 only

Source: <https://indianexpress.com/article/lifestyle/pets-animals/kaziranga-assam-himanta-celebrates-painted-storks-return-10286932/>

66. Dragonfly survey

66. Consider the following statements:

Statement I: Dragonflies and damselflies are bioindicators of wetland ecosystem health.

Statement II: Larvae of Dragonflies and damselflies require clean, oxygen-rich water to survive.

Statement III: One dragonfly can consume 30 to 100 mosquitoes per day, making them ecologically important for natural mosquito control.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
 (b) Both Statement II and Statement III are correct but only one of them explains Statement I
 (c) Only one of the Statements II and III is correct and that explains Statement I
 (d) Neither Statement II nor Statement III is correct

Answer: (a) Both Statement II and Statement III are correct and both of them explain Statement I

Explanation:

In NEWS: Dragonfly survey in Delhi brings good news: Surge in count, new species logged

Dragonfly survey in Delhi:

- Delhi is home to approximately 51 species of odonates, which include dragonflies and damselflies.
- A recent dragonfly survey across seven DDA biodiversity parks in Delhi recorded 13,253 individual dragonflies, a 54% increase from 8,630 recorded last year.
- The Yellow-tailed Ashy Skimmer (*Potamarcha congener*) was recorded for the first time at the Yamuna Biodiversity Park.
- Kamla Nehru Ridge reported the highest count of dragonflies (3,935 individuals) and maximum species diversity (26 species) among all surveyed parks.

Dragonflies and damselflies - bioindicators:

- Dragonflies and damselflies are bioindicators of wetland ecosystem health, as their larvae require clean, oxygen-rich water to survive. **Hence Statement II is correct explains Statement I**
- One dragonfly can consume 30 to 100 mosquitoes per day, making them ecologically important for natural mosquito control. **While Statement III focuses on their predatory role, it also supports Statement I** because their presence reflects overall wetland health, both in terms of biodiversity and functional ecosystems. Their mosquito control role strengthens their ecological significance, making them useful bioindicators and ecosystem service providers.

PYQ REFERENCE: (2022)

Q. "If rainforests and tropical forests are the lungs of the Earth, then surely wetlands function as its kidneys." Which one of the following functions of wetlands best reflects the above statement?

- The water cycle in wetlands involves surface runoff subsoil percolation and evaporation.
- Algae form the nutrient base upon which fish, crustaceans, molluscs, birds, reptiles and mammals thrive.
- Wetlands play vital role in maintaining sedimentation balance and soil stabilization.
- Aquatic plants absorb heavy metals and excess nutrients.**

Source: <https://indianexpress.com/article/cities/delhi/dragonflies-delhi-new-species-yamuna-biodiversity-park-10277024/>

67. Snow leopards

67. Consider the following statements:

Statement I: Snow leopards exhibit significantly low levels of genetic variation.

Statement II: Snow leopards have undergone historic inbreeding due to their consistently small populations living in rugged, isolated mountain regions.

Statement III: Limited genetic diversity may reduce Snow leopards' resilience to climate change, disease, and habitat loss.

Which one of the following is correct in respect of the above statements?

- Both Statement II and Statement III are correct and both of them explain Statement I
- Both Statement II and Statement III are correct but only one of them explains Statement I
- Only one of the Statements II and III is correct and that explains Statement I
- Neither Statement II nor Statement III is correct

Answer: (a) Both Statement II and Statement III are correct and both of them explain Statement I

Explanation:

In NEWS: Snow leopards have very low genetic diversity, which puts their future at risk, finds Stanford study

Low genetic diversity in snow leopards:

- Snow leopards (*Panthera uncia*) have very low genetic diversity, meaning their overall genetic variation is limited. **Hence statement I is correct.**
- The study involved 41 full genome sequences: 35 wild snow leopards + 6 from zoos. Previously only 4 individuals had full genome data.
- The cause is not a recent bottleneck (as in many big cats) but a long-term, persistently small population size living in harsh mountainous habitat. Because of this, snow leopards have had historic inbreeding over long periods. **Hence statement II is correct and explains Statement I.**
- Adaptive potential is constrained: With low genetic diversity, ability to adapt to new threats (e.g. diseases, changing prey, warming climate) is reduced.
- Greater vulnerability to stochastic events: A disease outbreak or sudden environmental disturbance could have outsized effects since there's less genetic "backup." **Hence statement III is correct but does not explain Statement I. Statement III is a consequence and not a cause for Statement I.**

Snow Leopard:

- The snow leopard (*Panthera uncia*) is a large carnivorous cat native to the high mountain ranges of Central and South Asia.
- Snow leopards inhabit high-altitude mountains (3,000–5,500 m), including the Himalayas, Karakoram, Pamirs, and Tien Shan ranges.
- Countries where they are found include: **India, Nepal, Bhutan, China, Mongolia, Pakistan, Afghanistan, Kazakhstan, and others.**
- They prefer rocky terrain, cliff edges, and alpine meadows, which provide cover and strategic vantage points for hunting.
- They are **Carnivorous apex predators:** Main prey includes blue sheep (bharal), ibex, marmots, pikas, and domestic livestock.
- Solitary and mostly nocturnal or crepuscular (active at dawn and dusk).
- Uses stealth and surprise rather than speed to hunt.
- Has a long tail for balance on steep slopes and as insulation when wrapped around the body in cold.
- IUCN Status: **Vulnerable**
- Protected under **CITES Appendix I** (ban on international trade).

PYQ REFERENCE: (2012)

Q. Consider the following:

- Black-necked crane
- Cheetah
- Flying squirrel
- Snow leopard

Which of the above are naturally found in India?

- 1, 2 and 3 only
- 1, 3 and 4 only**
- 2 and 4 only
- 1, 2, 3 and 4

Source: <https://www.downtoearth.org.in/wildlife-biodiversity/snow-leopards-have-very-low-genetic-diversity-which-puts-their-future-at-risk-finds-stanford-study>

68. Green Sea Turtle

68. With reference to the Green sea turtles, Consider the following statements:

- It is the largest hard-shelled sea turtle.
- It is primarily an omnivorous species.
- It is listed as critically endangered by the IUCN

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a) Only one

Explanation:

In NEWS: Green Sea Turtle Status Upgraded to Least Concern

Green Sea Turtle:

● The Green Sea Turtle is a large, primarily herbivorous sea turtle found in tropical and subtropical oceans worldwide. **Hence statement 2 is incorrect.**

● It gets its name not from its shell, but from the greenish color of its body fat, which results from its diet of seagrasses and algae.

● The Green Sea Turtle (*Chelonia mydas*) is the largest hard-shelled sea turtle in the world. **Hence statement 1 is correct.**



● Green Sea Turtles are found in coastal areas of over 140 countries, including coral reefs, seagrass beds, and sandy beaches.

● They are known to migrate long distances between feeding grounds and nesting beaches—sometimes over 2,000 kilometers.

● Juvenile Green Sea Turtles are omnivorous, eating invertebrates like jellyfish and sponges, but adults primarily feed on seagrass and algae.

● Their grazing helps maintain healthy seagrass beds, which are crucial ecosystems for other marine life.

● Female Green Sea Turtles return to the same beach where they were born to lay their eggs, a phenomenon known as natal homing.

● A female can lay up to 200 eggs per nest and may nest multiple times in a single season.

● Green Sea Turtles are classified as Least Concern by the IUCN due to threats like habitat loss, poaching, bycatch, and climate change. **Hence statement 3 is incorrect.**

● Many countries protect them through nesting beach conservation, turtle excluder devices (TEDs) in fishing gear, and international treaties like CITES.

PYQ REFERENCE: (2019)

Q. Consider the following statements:

1. Some species of turtles are herbivores.
2. Some species of fish are herbivores.
3. Some species of marine mammals are herbivores.
4. Some species of snakes are viviparous.

Which of the statements given above are correct?

- (a) 1 and 3 only
- (b) 2, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4**

Source: <https://www.downtoearth.org.in/wildlife-biodiversity/global-green-sea-turtle-population-has-increased-by-28-per-cent-since-1970s-iucn>

69. Microplastics

69. There is a concern over the increase in harmful impact of microplastics. What could be the harmful consequences of this phenomenon?

1. Bioaccumulation
2. Damage OF Coral reefS
3. Soil degradation
4. Cellular damage in humans

Select the correct answer from the codes given below:

- (a) 1 and 4 only
- (b) 2 and 3 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4**

Answer: (d) 1, 2, 3 and 4

Explanation:

In NEWS: Microplastics impact coral reproduction at multiple stages: Report

● Chemicals that leach out from microplastics significantly reduce survival and settlement of coral planula larvae.

● The effect depends on species, type of polymer, concentration, and exposure time.

● Corals were exposed to microplastic leachate from four plastic types - nylon, polypropylene (PP), high-density polyethylene (HDPE) or low-density polyethylene (LDPE)

Microplastics:

Microplastics are plastic particles **smaller than 5 mm in size.**

They can be:

- Primary microplastics - made small intentionally (e.g., microbeads).
- Secondary microplastics - result from breakdown of larger plastic debris.

Primary Microplastics:

Personal care products - Microbeads in face washes, toothpaste, scrubs

Industrial abrasives - Used in sandblasting, textile processing

Plastic pellets (nurdles) - Used as raw material in plastic manufacturing

Secondary Microplastics:

Plastic waste breakdown - Bottles, bags, wrappers degraded by UV, waves

Synthetic clothing fibers - Polyester, nylon shed in laundry water

Tire wear particles - Rubber from car tires worn onto roads, washed into waterways

Paints & coatings - Marine paints, road markings

Fishing gear degradation - Nets, lines, floats breaking down in oceans

Harms of Microplastics:

Environmental Impacts

- Marine pollution
- Harm to marine life
- **Bioaccumulation**
- **Coral reef damage**
- **Soil degradation**

Human Health Concerns

- Food & water - Found in seafood, salt, bottled water, fruits & vegetables
- Inhalation - Airborne microplastic fibers from synthetic fabrics, dust
- Toxic chemicals - Plastics contain additives (BPA, phthalates, flame retardants) that may disrupt hormones
- **Cellular damage** - Studies show microplastics can cause inflammation and stress in cells

- Crossing barriers - Detected in human blood, lungs, placenta – potential unknown long-term effects

Hence option (d) is correct.

PYQ REFERENCE: (2019)

Q. Why is there a great concern about the 'microbeads' that are released into environment?

- (a) They are considered harmful to marine ecosystems.
- (b) They are considered to cause skin cancer in children.
- (c) They are small enough to be absorbed by crop plants in irrigated fields.
- (d) They are often found to be used as food adulterants.

Source: <https://www.downtoearth.org.in/wildlife-biodiversity/microplastics-impact-coral-reproduction-at-multiple-stages-report>

70. IUCN World Conservation Congress, 2025

70. Consider the following statements with respect to the IUCN World Conservation Congress:

- I. The IUCN World Conservation Congress, 2025 was held in New Delhi, India.
- II. India unveiled its first Red List in the 2025 Congress.
- III. It is held once every two years.

Which of the statements given above is/are correct?

- (a) I only
- (b) I and III
- (c) II only
- (d) II and III

Answer: (c) II only

Explanation:

In NEWS: India's first Red List of Endangered Species to be unveiled at IUCN World Congress

IUCN World Conservation Congress:

- The IUCN World Conservation Congress (WCC) is a global forum for conservation and sustainable development.
- Organized by the International Union for Conservation of Nature (IUCN).
- Brings together governments, civil society organizations, Indigenous peoples, scientists, and businesses.
- It is held **once every four years. Hence statement III is incorrect.**
- Venue rotates globally; **the 2025 Congress is in Abu Dhabi, UAE. Hence statement I is incorrect.**

Objectives

- Set global conservation priorities.
- Evaluate the status of the world's biodiversity and propose strategies for protection.
- Promote sustainable development policies and nature-based solutions.
- Facilitate international collaboration for biodiversity conservation and climate action.

India's First Red List:

- Unveiled at the IUCN World Conservation Congress 2025 in Abu Dhabi.
- **Marks India's first national-level assessment of endangered species. Hence statement II is correct.**
- Demonstrates India's commitment to biodiversity conservation and global environmental responsibilities.
- Expected to guide national conservation priorities and policy actions.
- Covers species across flora and fauna within India.
- Aligns with IUCN methodology for global comparability.
- Provides a baseline for monitoring species population trends and habitat health.

Red List of Endangered Species:

- The Red List is a comprehensive inventory of the global conservation status of species, assessing their risk of extinction.

● **Maintained by the International Union for Conservation of Nature (IUCN).**

- Categorizes species as: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient, and Not Evaluated.

PYQ REFERENCE: (2011)

Q. The "Red Data Books" published by the International Union for Conservation of Nature and Natural Resources (IUCN) contain lists of

1. Endemic plant and animal species present in the biodiversity hotspots.
2. Threatened plant and animal species.
3. Protected sites for conservation of nature and natural resources in various countries.

Select the correct answer using the codes given below:

- (a) 1 and 3
- (b) 2 only
- (c) 2 and 3
- (d) 3 only

Source: https://www.downtoearth.org.in/wildlife-biodiversity/indias-first-red-list-of-endangered-species-to-be-unveiled-at-iucn-world-congress#google_vignette

71. 'National Pulses Mission'

71. With the recent approval of the 'National Pulses Mission' in India, consider the following statements:

- I. India is the largest producer, consumer, and exporter of pulses globally.
- II. Under National Pulses Mission the government assures 100% procurement of Minimum Support Price (MSP) for tur, urad, and lentil.

Which of the statements given above is/are correct?

- (a) I only
- (b) II only
- (c) Both 1 and II
- (d) Neither I nor II

Answer: (b) II only

Explanation:

In NEWS: Union Cabinet Approves the Ambitious 'National Pulses Mission'; Key Decision To Increase MSP.

India on Pulses:

- India is the **largest producer, consumer, and importer of pulses. Hence statement I is incorrect.**
- Pulses are vital for **nutritional security**, rich in protein and micronutrients.
- Despite high demand, India often faces shortages, leading to imports.
- To reduce dependence, the Government has launched a dedicated **National Pulses Mission.**

Objectives & Targets of the National Pulses Mission:

- To achieve **self-sufficiency** in pulses, enhance **food & nutritional security**, and boost **farmer incomes.**
- The production target: Increase pulses output from **24.2 million tonnes (2024-25) to 35 million tonnes by 2030-31.**
- The scheme will roll out in **416 districts**, focusing on:
 - Cultivating in **rice fallow** areas
 - Use of improved seeds (breeder, foundation, certified)
 - Promoting **intercropping**
 - Providing **irrigation support, technical assistance**
 - Strengthening **market linkages**

- For **tur, urad, and lentils**, the government will procure at **100 % MSP**, ensuring full returns to farmers. **Hence statement II is incorrect.**
- The Mission is allocated **₹11,440 crore** for the year **2025-26**.

Significance

- Reduces **import bill** (India imports ~2-3 MMT pulses annually).
- Improves **nutritional security** by addressing protein deficiency.
- Boosts **income of small and marginal farmers**.
- Supports **crop diversification** and sustainable agriculture.
- Aligns with **SDGs** (Zero Hunger, Good Health, Poverty Reduction).
- The **National Pulses Mission** is a landmark step to transform India from a net importer to a **self-reliant nation in pulses**, ensuring **nutritional security, farmer welfare, and sustainable agriculture** by 2030.

PYQ REFERENCE: (2020)

Q. With reference to pulse production in India, consider the following statements:

1. Black gram can be cultivated as both kharif and rabi crops.
2. Green-gram alone accounts for nearly half of pulse production.
3. In the last three decades, while the production of kharif pulses has increased, the production of rabi pulses has decreased.

Which of the statements given above is/are correct?

- (a) 1 only
 (b) 2 and 3 only
 (c) 2 only
 (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2173785>

72. India's Dairy Sector

72. With respect to the dairy sector in India, Consider the following statements:

- I. India is the world's largest milk producer, contributing nearly a quarter of the world's supply.
- II. More than 50% of dairy farmers in India are women.

Which of the statements given above is/are correct?

- (a) I only
 (b) II only
 (c) Both 1 and II
 (d) Neither I nor II

Answer: (c) Both 1 and II

Explanation:

In NEWS: India's Dairy Sector - "Anchoring Nutrition and Income Security"

India's Dairy Sector

- India is the **world's largest milk producer**, contributing **~25% of global supply**. **Hence statement I is correct.**
- Dairy contributes **5% to India's GDP** and supports **8 crore farmers**, mostly smallholders.

Sector Growth (2014-2024)

- **Milk production** increased by **63.56%** to **239.3 million tonnes**.
- **Per capita milk availability** rose by **48%** to **471 grams/day**.
- **Bovine productivity** grew by **27.39%**, highest globally.

Key Takeaways

1. India continues to hold **1st position in global milk production** and contributes nearly a **quarter** of the world's supply.
2. **Currently, dairy is the largest agricultural product in India**, contributing **5 percent to the national economy** and directly employing more than **8 crore farmers**.
3. Milk production rose by **63.56%** from **146.3 million tonnes to 239.30 million tonnes in 10 years**. Per capita supply has gone up by **48%**, with more than **471 grams a day in 2023-24**.
4. In 2024-25, a total of **565.55 lakh artificial inseminations** were carried out across the country.

Women in Dairy

- **70% of dairy workforce** are women; **35% participate in cooperatives**. **Hence statement II is correct.**
- **48,000+ women-led dairy cooperatives** operate nationwide.

Scientific & Technological Advances

- **565.55 lakh artificial inseminations** performed in 2024-25.
- **IVF labs (22)** and **sex-sorted semen (10.32 million doses)** support breed improvement.
- **38,736 MAITRIs** trained to deliver doorstep breeding and vet services.

Genetic & Breed Improvement

- **Rashtriya Gokul Mission** aims to improve indigenous breeds and productivity.
- **3,747 progeny-tested bulls** and **132 breed farms** established.



Sustainability Push

- **Ethno Veterinary Medicine (EVM)** integrates Ayurveda with animal healthcare.
- Focus on **natural farming, organic manure, and biogas** for circular economy.

White Revolution 2.0 (2024-2029)

- Goal: Raise milk procurement to **1007 lakh kg/day** by 2029.
- Plan: Set up **75,000 new dairy cooperatives** and strengthen **46,422 existing ones**.
- Launch of **3 Multi-State Cooperatives** for feed, sustainability, and animal by-product management.

PYQ REFERENCE: (2025)

Q. Consider the following statements about the Rashtriya Gokul Mission:

- I. It is important for the upliftment of rural poor as majority of low producing indigenous animals are with small and marginal farmers and landless labourers.
- II. It was initiated to promote indigenous cattle and buffalo rearing and

conservation in a scientific and holistic manner.

Which of the statements given above is/are correct?

- (a) I only
- (b) II only
- (c) Both I and II
- (d) Neither I nor II

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2172546>

73. 'World Cotton Day' 2025

73. Consider the following statements regarding cotton cultivation in India:

1. The World Cotton Day which is observed annually on 7th October was officially recognised through a resolution of the World Trade Organization.
2. Maharashtra has the largest area under cotton cultivation in India.
3. Gujarat has the highest cotton productivity in India.
4. Cotton is highly tolerant to both drought and waterlogging.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Answer: (b) Only two

Explanation:

In NEWS: Ministry of Textiles celebrates 'World Cotton Day' 2025

World Cotton Day 2025:

- **Observed on:** 7th October every year.
- **Established by:** United Nations General Assembly (UNGA) Resolution.
- Hence statement 1 is incorrect.**
- **First celebrated:** 2019, initiated by the **Cotton-4 countries (Benin, Burkina Faso, Chad, Mali)** with support from the **World Trade Organization (WTO)**.
- **2025 Theme:** "The Fabric of Our Lives".
- **Organisers (2025):** FAO, International Trade Centre (ITC), WTO, UNCTAD, and the Republic of Chad.

Objective:

- To highlight the role of cotton in **economic growth, trade, and poverty reduction**.
- To promote **sustainable and inclusive cotton value chains**, especially in developing and least developed countries.
- To raise awareness about challenges faced by cotton producers, especially in Africa and Asia.

Cotton Crop in India:

- **Scientific name:** *Gossypium spp.*
- **Family:** Malvaceae.
- **Type:** Kharif crop (sown June–September; harvested October–March).
- **Climate:** Tropical and subtropical; requires **21–30°C, 6–8 months frost-free period, and 50–100 cm rainfall**.
- **Soil:** Best grown in **black cotton soil (regur soil)** of the Deccan Plateau; also grown in alluvial soils of North India.
- **Irrigation:** Moderate; sensitive to both drought and waterlogging.

Hence statement 4 is incorrect.

Leading Producers:

- **Maharashtra** (largest area under cotton cultivation in India). **Hence statement 2 is correct.**
- **Gujarat** (highest productivity in India). **Hence statement 3 is correct.**
- **Telangana, Madhya Pradesh, Haryana, Punjab, Rajasthan.**

India's Cotton Belt: Divided into 3 zones —

- **Northern Zone:** Punjab, Haryana, Rajasthan.

- **Central Zone:** Maharashtra, Gujarat, Madhya Pradesh.

- **Southern Zone:** Telangana, Andhra Pradesh, Tamil Nadu, Karnataka.

PYQ REFERENCE: (2020)

Q. "The crop is subtropical in nature. A hard frost is injurious to it. It requires at least 210 frost-free days and 50 to 100 centimeters of rainfall for its growth. A light well-drained soil capable of retaining moisture is ideally suited for the cultivation of the crop." Which one of the following is that crop?

- (a) Cotton
- (b) Jute
- (c) Sugarcane
- (d) Tea

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2176028>

74. Indi and Puliyanakudi Limes

74. Which of the following has/have been accorded 'Geographical Indication' status?

1. Indi Lime
2. Puliyanakudi Lime
3. Assam Lime

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

In NEWS: APEDA Facilitates First-Ever Air Shipment of GI Tagged Indi and Puliyanakudi Limes from Karnataka and Tamil Nadu to the United Kingdom

APEDA Facilitates First-Ever Air Shipment of GI-Tagged Indi and Puliyanakudi Limes to the UK (2025)

- The **Agricultural and Processed Food Products Export Development Authority (APEDA)** under the **Ministry of Commerce and Industry** facilitated the **first-ever export** of India's **GI-tagged Indi Lime (Karnataka)** and **Puliyanakudi Lime (Tamil Nadu)** to the **United Kingdom** on **28 October 2025**.

- The shipment included **350 kg of Indi Lime** from **Vijayapura (Karnataka)** and **150 kg of Puliyanakudi Lime** from **Tenkasi (Tamil Nadu)** — totaling **500 kg**.

- The initiative promotes the **export of India's GI-tagged horticultural produce** and expands its **global footprint**.

- **Indi Lime:** Grown mainly in **Vijayapura**, known for **zesty aroma, high juice yield, balanced acidity, and traditional medicinal value**.

- **Puliyanakudi Lime:** Cultivated in **Tenkasi, Tamil Nadu**; known for **thin peel, high ascorbic acid (34.3 mg/100g), 55% juice content, and rich Vitamin C**; received **GI Tag in April 2025**.

- The initiative aligns with APEDA's mission to **promote India's GI-tagged agri-produce globally** and **benefit local farmers and producer groups** through **market diversification**.

Assam Lime received Geographical Indication (GI) status in 2019.

Hence all are correct.

PYQ REFERENCE: (2023)

Q. Which of the following has/have been accorded 'Geographical Indication' status?

1. Banaras Brocades and Sarees
2. Rajasthani Daal-Bati-Churma
3. Tirupathi Laddu

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2183886>

75. Nutrient Based Subsidy Scheme

75. Which among the following statements is/are correct with respect to the 'Nutrient Based Subsidy Scheme'?

1. It was launched by the Department of Fertilizers, under the Ministry of Agriculture & Farmers' Welfare.
2. The scheme covers Phosphatic and Potassic (P&K) fertilizers including Urea.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (d) Neither 1 nor 2

Explanation:

In NEWS: Cabinet approves the Nutrient Based Subsidy rates for Rabi 2025- 26 on Phosphatic and Potassic fertilizers

Nutrient Based Subsidy (NBS) Scheme:

- The **Nutrient Based Subsidy (NBS) Scheme** was launched in **April 2010** by the **Department of Fertilizers**, under the **Ministry of Chemicals and Fertilizers**. **Hence statement 1 is incorrect.**
- The scheme covers **Phosphatic and Potassic (P&K) fertilizers**, excluding **Urea** (which remains under a separate controlled subsidy). **Hence statement 2 is incorrect.**
- Under NBS, the **subsidy is fixed per kilogram of nutrient content** — Nitrogen (N), Phosphate (P), Potash (K), and Sulphur (S).
- The subsidy is **provided directly to fertilizer companies**, who sell fertilizers to farmers at subsidized rates.
- The scheme aims to **encourage balanced fertilization**, promoting judicious use of all nutrients rather than overuse of urea (Nitrogen).
- It also enables farmers to access **fertilizers at affordable prices** and supports **soil health management**.
- The **rates of subsidy per nutrient** are **notified annually** by the Government based on global prices and domestic needs.

PYQ REFERENCE: (2017)

Q. Consider the following statements:

The nation-wide 'Soil Health Card Scheme' aims at

1. expanding the cultivable area under irrigation.
2. enabling the banks to assess the quantum of loans to be granted to farmers on the basis of soil quality.
3. checking the overuse of fertilizers in farmlands.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2183291>

76. International Pepper Community

76. Consider the following countries:

1. India
2. Indonesia
3. Malaysia
4. Myanmar
5. China

Which of the above are members of the International Pepper Community?

- (a) 1, 2 and 3
- (b) 1 and 4
- (c) 2 and 5
- (d) 3, 4 and 5

Answer: (a) 1, 2 and 3

Explanation:

In NEWS: Global Pepper Industry Convenes in Kochi for the 53rd International Pepper Community Annual Sessions

International Pepper Community (IPC):

- The **International Pepper Community (IPC)** is an **intergovernmental organization** of **pepper-producing countries**, established under the **United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP)**.
- It was **set up in 1972**, with headquarters in **Jakarta, Indonesia**.
- The IPC promotes the **production, trade, and research** related to **pepper (Piper nigrum)** and **other spices**.
- India is a **founding and active member** of the IPC.
- The **Spices Board of India** (under the **Ministry of Commerce & Industry**) represents India in the IPC.
- India hosted several **IPC Sessions and Spice Conferences**, promoting sustainable pepper farming.

Member Countries

- **Founding members:** India, Indonesia, and Malaysia.
- Other members: Sri Lanka, Vietnam, Brazil, and Papua New Guinea.
- **Associate members and observers:** Various spice-producing and importing countries. **Hence option (a) 1, 2 and 3 are correct.**

Objectives

- Promote **international cooperation** in pepper production and trade.
- Facilitate **research and development** to improve yield and quality.
- Collect, analyse, and disseminate **market and price information**.
- Encourage **value addition and fair trade practices**.
- Provide a **forum for policy coordination** among member countries.

PYQ REFERENCE: (2022)

Q. Consider the following countries:

1. Armenia
2. Azerbaijan
3. Croatia
4. Romania
5. Uzbekistan

Which of the above are members of the Organization of Turkic States?

- (a) 1, 2 and 4
- (b) 1 and 3
- (c) 2 and 5
- (d) 3, 4 and 5

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2183513>

ECONOMY

77. Cryptocurrency Policy & Stablecoins

77. With reference to stablecoins, consider the following statements:

1. They are cryptocurrencies pegged to stable assets like fiat currencies or commodities.
2. They are issued only by central banks.
3. India has recognized stablecoins as legal tender.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1 and 3 only

Answer: (a) 1 only

Explanation:

In NEWS: Nations must prepare to deal with stablecoins: Sitharaman

Cryptocurrency Policy & Stablecoins:

- At the **Kautilya Economic Conclave (Oct 2025)**, Finance Minister **Nirmala Sitharaman** stated that nations must “prepare to engage” with **stablecoins**, signalling a possible policy shift in India’s stance toward cryptocurrencies.
- Comes amid **RBI’s opposition** to private cryptocurrencies and **India’s cautious approach**—taxing crypto transactions but not legalising them.

Cryptocurrency / Virtual Digital Asset (VDA)

- **Definition:** A digital asset using cryptography and a decentralised blockchain network for transactions.
- **Status in India:**
 - **Not legal tender**, but **taxed at 30%** on gains (as per Union Budget 2022).
 - **1% TDS** applicable on transactions.
 - No regulatory framework yet — neither banned nor recognised.

Stablecoins

- **Definition:** Cryptocurrencies pegged to a stable asset (like the US dollar, Euro, gold, or a currency basket) to **minimise volatility**. **Hence statement 1 is correct.**
- **Examples:** USDT (Tether), USDC, DAI.
- They can be issued by private entities, not only central banks. **Hence statement 2 is incorrect.**
- **Purpose:** Provide the advantages of crypto (fast, borderless transactions) without large price fluctuations.
- **Concern:** Even if stable, they can challenge **monetary sovereignty, capital controls, and financial stability.**
- **Legal Tender:** India has **not recognized** stablecoins as legal tender. **Hence statement 3 is incorrect.**

CBDC (Central Bank Digital Currency)

- **Issued by:** Central Bank (in India — the **RBI**).
- **Legal Tender:** Yes, equivalent to physical cash.
- **Objective:** To offer a sovereign digital alternative to private cryptocurrencies.
- **RBI’s Pilot Projects:** e₹-Retail and e₹-Wholesale launched in **2022**.

PYQ REFERENCE: (2023)

Q. With reference to Central Bank digital currencies, consider the following statements:

1. It is possible to make payments in a digital currency without using the US dollar or SWIFT system.
2. A digital currency can be distributed with conditions programmed into it such as a time-frame for spending it.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Source:

<https://www.thehindu.com/business/Economy/union-finance-minister-nirmala-sitharaman-at-kautilya-economic-conclave-2025/article70120196.ece>

78. Co-lending

78. Consider the following statements regarding Co-Lending in India:

1. In co-lending, both banks and NBFCs jointly originate and disburse the loan to the borrower.
2. The NBFC in co-lending bears the majority of the risk, while the bank’s share is usually less.
3. Co-lending is primarily aimed at improving credit flow to priority sectors.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2, and 3

Answer: (b) 1 and 3 only

Explanation:

In NEWS: Govt.-owned NBFCs can unleash credit via co-lending

1. INTRODUCTION

Co-lending refers to a partnership between banks and Non-Banking Financial Companies (NBFCs) where both jointly provide loans to borrowers, especially in the priority sectors such as agriculture, MSMEs, and affordable housing. **Hence statement 1 is correct.**

This initiative is promoted by the Reserve Bank of India (RBI) to enhance credit flow to underserved sectors and improve financial inclusion.

2. How Co-Lending Works

- The NBFC identifies and originates the loan, performs credit appraisal, and manages customer interaction.
- The bank provides a portion of the funding.
- Loans are jointly sanctioned, and both entities share the risk in a pre-agreed ratio.
- Typically, banks hold a majority share of the loan, ensuring compliance with priority sector lending targets.

Example:

- If a ₹10 lakh loan is co-lent in an 80:20 ratio, the bank contributes ₹8 lakh, and the NBFC ₹2 lakh.

3. Key Features

Feature	Description
Objective	Increase credit to priority sectors and underserved borrowers
Risk Sharing	Pre-agreed ratio between bank and NBFC

Loan Origination	NBFCs originate; banks provide funding
Customer Interaction	NBFC handles disbursement, monitoring, and recovery
Regulation	RBI issued guidelines for co-lending in 2018

4. Benefits

1. For Banks:

- Expands outreach without increasing operational burden.
- Helps achieve priority sector lending targets. **Hence statement 3 is correct.**

2. For NBFCs:

- Access to low-cost funds from banks.
- Reduces liquidity risk. **Hence statement 2 is incorrect.**

3. For Borrowers:

- Easier access to credit in rural or underserved areas.
- Better loan terms due to combined strengths of banks and NBFCs.

5. RBI Guidelines

- Banks and NBFCs must enter formal agreements specifying roles, responsibilities, and risk-sharing.
- Maximum exposure for banks is usually capped at 80% of the loan.
- Both institutions jointly perform due diligence and comply with all regulatory norms.

Reference: RBI Master Circular on Co-Lending by Banks and NBFCs, 2018

PYQ REFERENCE:

Q. With reference to Non-Banking Financial Companies (NBFCs) and Small Finance Banks (SFBs), consider the following statements: (2024)

1. NBFCs do not offer credit, but SFBs offer credit.
2. NBFCs do not accept demand deposits, but SFBs accept demand deposits.
3. Transaction services are not offered by NBFCs, whereas transaction services are offered by SFBs.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two**
- (c) All three
- (d) None

Source: <https://www.thehindu.com/education/inside-the-private-school-boom-how-nbfc-can-power-affordable-education/article70198955.ece>

79. RTGS and NEFT

79. Consider the following statements regarding RTGS and NEFT in India:

1. RTGS and NEFT are India's main electronic interbank fund transfer systems, regulated by SEBI.
2. RTGS works on real-time and gross settlement, whereas NEFT transfers are batch-processed settlement at intervals.
3. RTGS has no upper limit for transfer, whereas NEFT transactions have a maximum limit of transaction.
4. Both RTGS and NEFT are available 24x7 for all types of customers.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 2 and 4 only**

Answer: (d) 2 and 4 only

In NEWS: UPI leads in payments volume, RTGS in value; debit card transactions decline: RBI report

Explanation:

● RTGS and NEFT are India's main **electronic interbank fund transfer systems**, regulated by RBI. **Hence statement 1 is incorrect.**

● They are crucial for **digital payments, financial inclusion**, and an **efficient payment ecosystem**.

1. RTGS (Real Time Gross Settlement):

● Transfers are **real-time and gross** (each transaction individually settled).

● **High-value transfers:** Minimum ₹2 lakh, no upper limit.

● **Availability:** 24x7 (since Dec 2020).

● **Use:** Large, urgent transactions (e.g., corporate payments, property deals).

2. NEFT (National Electronic Funds Transfer):

● Transfers are **batch-processed**, settled at intervals (real-time now since Dec 2019).

● **No minimum or maximum limit.** **Hence statement 3 is incorrect.**

● **Availability:** 24x7.

● **Use:** Everyday retail payments (e.g., salaries, bills, online shopping).

3. RTGS vs NEFT Comparison:

Feature	RTGS	NEFT
Settlement	Real-time, gross	Batch-wise
Minimum Transfer	₹2 lakh	No minimum
Maximum Transfer	No upper limit	No maximum
Speed	Immediate	Few minutes to hours
Usage	Large & urgent	Retail & small-value
Availability	24x7	24x7

4. Importance in Indian Economy:

● Promotes **digital payments**, reduces cash dependency.

● Supports **financial inclusion** in remote areas.

● Enables fast, secure fund transfer for **government schemes** (PM-KISAN, DBT, GST refunds).

● Reduces **settlement risk** and improves **monetary policy transmission**.

PYQ REFERENCE: (2025)

Q. Consider the following statements in respect of RTGS and NEFT: (2025)

I. In RTGS, the settlement time is instantaneous while in case of NEFT, it takes some time to settle payments.

II. In RTGS, the customer is charged for inward transactions while that is not the case for NEFT.

III. Operating hours for RTGS are restricted on certain days while this is not true for NEFT.

Which of the statements given above is/are correct?

- (a) I only
- (b) I and II
- (c) I and III
- (d) III only**

Source: <https://www.thehindu.com/business/upi-leads-in-payments-volume-rtgs-in-value-debit-card-transactions-decline-rbi-report/article70193569.ece>

80. The Fair and Remunerative Price (FRP)

80. Consider the following statements regarding the Fair and Remunerative Price (FRP) in India:

1. The Fair and Remunerative Price (FRP) in India is applicable only for sugarcane.
2. It was announced by the Commission for Agricultural Costs and Prices (CACP) on the recommendation of the Cabinet Committee on Economic Affairs (CCEA).
3. It is the minimum price that sugar mills are legally bound to pay to sugarcane farmers for their produce.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b) Only two

Explanation:

In NEWS: Sugar sector concerned over reduction in ethanol sourcing

Fair and Remunerative Price (FRP)

● **Implemented by:** Government of India under the **Sugarcane (Control) Order, 1966.**

● **Announced by:** Cabinet Committee on Economic Affairs (CCEA) on the recommendation of the **Commission for Agricultural Costs and Prices (CACP). Hence statement 2 is incorrect.**

● **Ministry:** Ministry of Consumer Affairs, Food and Public Distribution.

● **Objective:** To ensure fair returns to sugarcane farmers and stable sugar industry operations.

● **Nature:** It is the **minimum price** that sugar mills are legally bound to pay to sugarcane farmers for their produce. **Hence statement 3 is correct.**

● **Determining Factors:** Cost of production, recovery rate of sugar, inter-crop price parity, and reasonable margins for farmers.

● **Difference from MSP:** FRP is specific to **sugarcane (FRP is provided only for one crop — sugarcane). Hence statement 1 is correct.**

PYQ REFERENCE: (2015)

Q. The Fair and Remunerative Price (FRP) of sugarcane is approved by the

- (a) Cabinet Committee on Economic Affairs
- (b) Commission for Agricultural Costs and Prices
- (c) Directorate of Marketing and Inspection, Ministry of Agriculture
- (d) Agricultural Produce Marketing Committee

Source: <https://www.thehindu.com/business/sugar-sector-concerned-over-reduction-in-ethanol-sourcing/article70217446.ece>

81. Rupee Depreciation

81. Which of the following factors generally lead to depreciation of the Indian rupee?

1. Increase in crude oil prices
2. Fall in U.S. interest rates
3. Rise in capital inflows
4. Increase in current account deficit

Select the correct answer using the code below:

- (a) 1 and 4 only
- (b) 2 and 3 only
- (c) 1, 2 and 4
- (d) 1, 3 and 4

Answer: (a) 1 and 4 only

Explanation:

In NEWS: Rupee falls 3 paise to close at 88.80 against U.S. dollar

● The **Indian rupee** depreciated by **3 paise**, closing at **₹88.80 per U.S. dollar.**

● The fall was attributed to a **stronger U.S. dollar index**, **foreign fund outflows**, and **rising crude oil prices.**

Rupee Depreciation

● **Rupee depreciation** means a **fall in the value of the Indian rupee** against a foreign currency (usually the **U.S. dollar**) in a **floating exchange rate system.**

● For example:

○ If ₹1 = \$0.012 → becomes ₹1 = \$0.011 → the rupee has **depreciated** (you now need more rupees to buy one dollar).

Types of Exchange Rate Movements

Term	Meaning
Depreciation	Fall in value of domestic currency due to market forces (flexible exchange rate).
Devaluation	Fall in value of domestic currency by government decision (fixed exchange rate).
Appreciation	Rise in value of domestic currency due to market forces.
Revaluation	Rise in value of domestic currency by official decision.

Major Causes of Rupee Depreciation

1. **High Crude Oil Prices:**

○ India imports ~85% of its crude needs → increases demand for dollars. **Hence 1 is correct.**

2. **Current Account Deficit (CAD):**

○ Higher imports than exports lead to more dollar outflow. **Hence 4 is correct.**

3. **Foreign Portfolio Outflows:**

○ When FPIs withdraw investments, they convert rupees to dollars, reducing rupee demand. **Hence 3 is incorrect.**

4. **Strong U.S. Dollar:**

○ The Federal Reserve's high interest rates attract capital to the U.S. **Hence 2 is incorrect.**

5. **Inflation Differential:**

○ Higher inflation in India erodes the rupee's purchasing power.

6. **Geopolitical & Global Uncertainty:**

○ Wars, conflicts, or global recession increase demand for the dollar as a "safe haven."

Impact of Rupee Depreciation

Negative Impacts

● **Costlier Imports:** Oil, gold, fertilizers, and electronics become expensive.

● **Inflationary Pressure:** Imported inflation due to higher input costs.

● **Widening CAD:** More dollars spent on imports.

● **Debt Servicing Pressure:** External borrowings become costlier in rupee terms.

Positive Impacts

● **Boosts Exports:** Indian goods become cheaper abroad.

● **Tourism & Remittances:** Foreign remittances gain more rupee value.

RBI's Role in Managing Depreciation

● **Intervention:** Sells dollars from **forex reserves** to stabilize the rupee.

● **Monetary Policy Tools:** Adjusts interest rates and liquidity conditions.

- **Market Confidence:** Issues policy statements to prevent panic.

PYQ REFERENCE: (2022)

Q. With reference to the Indian economy, consider the following statements:

1. If the inflation is too high, the Reserve Bank of India (RBI) is likely to buy government securities.
2. If the rupee is rapidly depreciating, RBI is likely to sell dollars in the market.
3. If interest rates in the USA or European Union were to fall, that is likely to induce RBI to buy dollars.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only**
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source: <https://www.thehindu.com/business/markets/rupee-falls-3-paise-to-close-at-8880-against-us-dollar/article70139184.ece>

82. Economic Recession

82. Which among the following steps can be taken by the government at the time of an economic recession?

1. Increasing government spending
2. Lowering interest rates
3. Implementing tax cuts
4. Decreasing money supply

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 2, 3 and 4 only
- (d) 1, 2 and 3 only

Answer: (d) 1, 2 and 3 only

Explanation:

In NEWS: Top economist warns: These 2 states could tip America into recession while another one is in danger zone

Recession:

- A recession is a nationwide economic slowdown, measured by factors such as industrial production, employment and income.
- A recession typically involves the overall output in an economy contracting for at least two consecutive quarters, along with job losses and reduction in overall demand.
- During a recession, businesses may sell fewer products, leading to layoffs and decreased wages. As a result, consumers tend to save their money rather than spend it, further dampening their contribution to the economy. This domino effect creates financial hardships that can affect the entire world.
- Governments respond to these recessions by altering fiscal policies to boost economic growth. The following are some measures policymakers may implement to deal with a recession:
 - Increasing government spending
 - Lowering interest rates
 - Implementing tax cuts
 - Increasing money supply. **Hence 4 is incorrect.**

PYQ REFERENCE:

Q. Which among the following steps is most likely to be taken at the time of an economic recession?

- (a) Cut in tax rates accompanied by increase in interest rate
- (b) Increase in expenditure on public projects**
- (c) Increase in tax rates accompanied by reduction of interest rate
- (d) Reduction of expenditure on public project

Source:

<https://economictimes.indiatimes.com/news/international/us/us-recession-risk-2025-mark-zandi-warns-california-and-new-york-could-tip-america-into-recession-while-another-one-is-in-danger-zone/articleshow/124850391.cms?from=mdr>

83. India's inflation targeting framework

83. Consider the following statements:

- I. The inflation target in India is set by the Reserve Bank of India (RBI), in consultation with the Government of India.
- II. The inflation target in India is based on core CPI inflation.
- III. If the inflation remains outside the 2-6% band for three consecutive quarters, the RBI must submit a report to the Government

Which of the statements given above is/are correct?

- (a) I and II
- (b) II and III
- (c) I and III
- (d) III only

Answer: (d) III only

Explanation:

In NEWS: Inflation lessons: On the inflation data and the RBI

India's Inflation Targeting Framework:

- Inflation targeting in India refers to the monetary policy framework where the central bank (RBI) aims to maintain inflation at a targeted level, using tools like interest rates.
- It was formally adopted in 2016 after the amendment of the Reserve Bank of India Act, 1934 through the Finance Act, 2016.
- The amended RBI Act provides for a Monetary Policy Framework Agreement (MPFA) between the Government of India and the RBI.
- Under this framework, the primary objective of monetary policy is to maintain price stability, while keeping in mind the objective of growth.
- The targeted inflation rate is:
 - 4% Consumer Price Index (CPI) inflation,
 - With a tolerance band of $\pm 2\%$, i.e., minimum 2% and maximum 6%.
- The **inflation target in India is set by the Government of India, in consultation with the Reserve Bank of India (RBI). Hence statement I is incorrect.**
- The Monetary Policy Committee (MPC) is responsible for setting the policy (repo) rate to meet this inflation target.
- The inflation target (4% $\pm 2\%$) was first notified for the period 2016-2021, and later extended for 2021-2026.
- The inflation target in India is based on headline CPI inflation, not core inflation or WPI. **Hence statement II is incorrect.**
- If the inflation remains **outside the 2-6% band for three consecutive quarters, the RBI must submit a report to the Government** explaining:
 - Reasons for failure
 - Remedial actions
 - Estimated time for returning to target. **Hence statement III is correct.**

PYQ REFERENCE: (2022)

Q. In India, which one of the following is responsible for maintaining price stability by controlling inflation?

- (a) Department of Consumer Affairs
- (b) Expenditure Management Commission
- (c) Financial Stability and Development Council
- (d) Reserve Bank of India**

Source: <https://www.thehindu.com/opinion/editorial/inflation-lessons-on-the-inflation-data-and-the-rbi/article70163069.ece>

84. Central Bank Digital Currencies (CBDCs)

84. Consider the following statements:

Statement-I: The Central Bank Digital Currency (CBDCs) a digital form of a country's fiat currency issued and regulated by its central bank.

Statement-II: Unlike cryptocurrencies like Bitcoin, CBDCs are legal tender and centralized, with value guaranteed by the government.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

Answer: (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

Explanation:

In NEWS: RBI Governor Malhotra urges other central banks to promote CBDCs over stablecoins

Central Bank Digital Currency (CBDC):

- CBDC stands for **Central Bank Digital Currency**, a **digital form of a country's fiat currency** issued and regulated by its central bank. **Hence statement I is correct.**
- Unlike cryptocurrencies like Bitcoin, CBDCs are **legal tender** and **centralized**, with value guaranteed by the government. **Hence statement II is correct and explains statement I**
- CBDCs are designed to **complement cash**, not replace it, and are fully backed by the central bank.
- There are **two types of CBDCs**:
 - **Retail CBDC:** For general public and businesses (digital rupee for individuals).
 - **Wholesale CBDC:** For financial institutions, primarily for interbank settlements.
- **India's CBDC** is called the **Digital Rupee (₹)**, being issued by the **Reserve Bank of India (RBI)**.
- The **Digital Rupee** can be used for **retail payments, e-commerce, and remittances**.
- CBDCs are designed to provide **secure, fast, and low-cost digital transactions**, reducing dependence on cash.
- CBDCs enhance **financial inclusion** by bringing digital payments to people without access to traditional banking.
- They help **curb black money, reduce transaction costs, and increase transparency**.
- CBDCs **do not rely on private cryptocurrencies** or decentralized blockchains; they may use **centralized or hybrid distributed ledger technology (DLT)**.
- **Advantages of CBDCs** include efficiency in payments, monetary policy transmission, financial inclusion, and reduced cash handling costs.
- **Risks of CBDCs** include cybersecurity threats, privacy concerns, and potential disruption to commercial banks' deposit base.

- Several countries, including **China, Bahamas, Sweden, and Nigeria**, have already launched or piloted CBDCs.
- India launched **pilot projects for the Digital Rupee** in 2022 for both **wholesale and retail use cases**.
- RBI continues to explore the **expansion and integration of CBDCs** into mainstream financial and retail payments.

PYQ REFERENCE: (2023)

Q. With reference to Central Bank digital currencies, consider the following statements:

1. It is possible to make payments in a digital currency without using US dollar or SWIFT system.
2. A digital currency can be distributed with condition programmed into it such as a time-frame for spending it.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Source: <https://indianexpress.com/article/business/rbi-governor-malhotra-urges-central-banks-promote-cbdcs-stablecoins-10309697/>

85. The Remission of Duties and Taxes on Exported Products (RoDTEP) incentive scheme

85. Consider the following statements with respect to the Remission of Duties and Taxes on Exported Products (RoDTEP):

1. Manufacturer exporters and merchant exporters (traders) are both eligible for the benefits of this scheme.
2. To be eligible to avail the benefits of this scheme, the exported products need to have the country of origin as India.
3. Special Economic Zone Units and Export Oriented Units are not eligible to claim the benefits under this scheme.
4. There is a mandatory turnover threshold of 500cr that exporters must meet to claim the RoDTEP benefit.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2, 3 and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 2, 3 and 4

Answer: (a) 1 and 2 only

Explanation:

In NEWS: Govt extends RoDTEP export incentive scheme till March 31, 2026, exporters welcome the move

The Remission of Duties and Taxes on Exported Products (RoDTEP):

- The Remission of Duties and Taxes on Exported Products (RoDTEP) is an incentive scheme launched by the Government of India to reimburse exporters for various central, state, and local duties and taxes incurred during the manufacturing and distribution process.
- The scheme, operational since January 1, 2021, replaced the Merchandise Exports from India Scheme (MEIS) to be compliant with World Trade Organization (WTO) norms.

Features of the RoDTEP Scheme:

Refund of Previously Non-Refundable Taxes

- Taxes like Mandi tax, VAT, Coal cess, and Excise duty on fuel are now refunded under RoDTEP — which were not covered under earlier schemes like MEIS or RoSCTL.

Covers Earlier Export Incentive Items

- Items under MEIS and RoSCTL are now brought under the scope of RoDTEP, ensuring continuity and broader coverage.

Automated Credit System

- Refunds are issued as transferable electronic scrips.
- These duty credits are maintained and tracked via a centralised electronic ledger.

Faster Processing via Digitisation

- Use of IT-based risk management system enables quicker verification and processing of exporter claims.
- Improves accuracy and speed of transactions.

Multi-Sector Coverage

- RoDTEP applies to all sectors, including textiles, ensuring uniform benefits.
- A dedicated committee decides rollout priorities and benefit rates for each sector.

Eligibility for RoDTEP Scheme:

- All sectors, including the textiles sector, may enjoy the benefits of the RoDTEP Scheme. Labor-intensive sectors that enjoy benefits under the MEIS Scheme will be given a priority.
- Manufacturer exporters and merchant exporters (traders) are both eligible for the benefits of this scheme. **Hence statement 1 is correct.**
- There is no particular turnover threshold to claim the RoDTEP. **Hence statement 4 is incorrect.**
- Re-exported products are not eligible under this scheme.
- To be eligible to avail the benefits of this scheme, the exported products need to have the country of origin as India. **Hence statement 2 is correct.**
- Special Economic Zone Units and Export Oriented Units are also eligible to claim the benefits under this scheme. **Hence statement 3 is incorrect.**
- Where goods have been exported via courier through e-commerce platforms, RoDTEP scheme applies to them as well.

PYQ REFERENCE:

Q. Consider the following actions which the Government can take:

1. Devaluing the domestic currency.
2. Reduction in the export subsidy.
3. Adopting suitable policies which attract greater FDI and more funds from FII's.

Which, of the above action/actions can help in reducing the current account deficit?

- (a) 1 and 2
- (b) 2 and 3
- (c) 3 only
- (d) 1 and 3

Source: <https://www.thehindu.com/business/Industry/govt-extends-export-benefits-under-rodtep-scheme-till-march-2026/article70112557.ece>

86. Foreign Currency Settlement System

86. Which of the following are the likely benefits of implementing the Foreign Currency Settlement System (FCSS) at the International Financial Services Centre (IFSC) in GIFT City?

- I. Reduction in transaction costs and settlement timelines for banks
- II. Mitigation of foreign exchange risks through local currency settlements
- III. Improved liquidity management for banks engaged in foreign currency operations

Select the correct answer using the code below:

- (a) I and II only
- (b) III only
- (c) I, II and III
- (d) II and III

Answer: (c) I, II and III

Explanation:

In NEWS: Union Finance Minister Nirmala Sitharaman on Tuesday (October 7) launched a Foreign Currency Settlement System (FCSS) at the International Financial Services Centre (IFSC) in Gujarat International Finance Tec-City (GIFT City).

Foreign Currency Settlement System (FCSS):

- Foreign Currency Settlement System (FCSS) at the International Financial Services Centre (IFSC) in Gujarat International Finance Tec-City (GIFT City).
- It means that transactions in foreign currency by entities within GIFT IFSC can now be settled in real time or near real time, instead of the current delays of 36-48 hours under traditional correspondent banking.
- This positions GIFT City among the select group of global financial centres (such as Hong Kong, Tokyo, Manila) that have local infrastructure to settle foreign currency transactions.
- FCSS is a payment and settlement system introduced by the Reserve Bank of India (RBI) to facilitate the settlement of foreign currency transactions between banks within India without routing through overseas correspondent banks.

How it Works:

- Participating banks in India settle their foreign currency transactions among themselves on a net basis.
- RBI acts as the clearinghouse, calculating net positions and facilitating settlement in foreign currencies like USD, Euro, JPY, and GBP.
- This minimizes foreign exchange risk and improves liquidity.

Benefits:

- Reduces transaction costs and settlement time for banks.
- Minimizes foreign exchange risk by allowing settlement in foreign currency locally.
- Enhances liquidity management for banks dealing in foreign currencies.

Hence option (d) is correct.

PYQ REFERENCE: (2017)

Q. What is/are the most likely advantages of implementing 'Goods and Services Tax (GST)'?

1. It will replace multiple taxes collected by multiple authorities and will thus create a single market in India.
2. It will drastically reduce the 'Current Account Deficit' of India and will enable it to increase its foreign exchange reserves.
3. It will enormously increase the growth and size of economy of India and will enable it to overtake China in the near future.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Source: https://www.business-standard.com/finance/news/foreign-currency-settlement-system-gift-city-launch-ifsc-nostro-125100800568_1.html

87. Unified Markets Interface

87. With reference to the Unified Markets Interface (UMI), recently introduced by the Reserve Bank of India, consider the following statements:

1. It enables tokenization of financial assets.
2. It allows settlement using wholesale Central Bank Digital Currency (CBDC).
3. It is designed exclusively for use by retail investors.

Which of the statements given above is/are correct?

- (a) 1 and 2

- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Answer: (a) 1 and 2

Explanation:

In NEWS: RBI Launches Unified Interface to Tokenize Assets

The Unified Markets Interface (UMI):

- The Unified Markets Interface (UMI) is a next-generation financial market infrastructure being developed by the Reserve Bank of India (RBI).
- It aims to enable tokenization of financial assets such as government securities, corporate bonds, and other market instruments. **Hence statement 1 is correct.**
- The UMI will facilitate the use of wholesale Central Bank Digital Currency (CBDC) for settlement of transactions. **Hence statement 2 is correct.**
- It leverages technologies like blockchain and smart contracts to improve efficiency, transparency, and security in financial markets.
- UMI is designed to support real-time settlement and reduce transaction costs in the financial ecosystem.
- The system allows for fractional ownership of tokenized assets, making it easier for retail and institutional investors to access high-value securities. **Hence statement 3 is incorrect.**
- By integrating tokenization and CBDC-based settlement, UMI aims to modernize India's financial market infrastructure.
- UMI is part of RBI's broader initiative to digitally transform financial markets and enhance the use of Digital Public Infrastructure.
- The initial pilot results of UMI showed promising improvements in settlement speed, operational efficiency, and risk reduction.
- The development of UMI aligns with global trends where central banks and financial regulators are exploring tokenized markets and digital currencies.

PYQ REFERENCE: (2022)

Q. In India, which one of the following is responsible for maintaining price stability by controlling inflation?

- (a) Department of Consumer Affairs
- (b) Expenditure Management Commission
- (c) Financial Stability and Development Council
- (d) Reserve Bank of India**

Source: <https://indianexpress.com/article/business/rbi-introduces-unified-markets-interface-to-tokenize-financial-assets-using-wholesale-cbdc-10295823/>

88. Comprehensive Economic and Trade Agreement (CETA)

88. which among the following countries have signed Comprehensive Economic and Trade Agreement (CETA)?

- (a) India and Canada
- (b) Canada and the European Union
- (c) India and the European Union
- (d) India and ASEAN

Answer: (b) Canada and the European Union

Explanation:

In NEWS: Relations between India and the **United Kingdom** witnessed a major step-up with the signing of the Comprehensive Economic and Trade Agreement (CETA) in July 2025.

Comprehensive Economic and Trade Agreement (CETA)

- CETA is a **free trade agreement (FTA)** between **Canada** and the **European Union (EU)**. **Hence option (b) is correct.**

- It aims to **remove tariffs**, reduce trade barriers, and promote investment and economic cooperation.
- Signed in **2016** and **provisionally applied from September 2017**.
- It covers **goods, services, investments, intellectual property, government procurement, and sustainable development**.

Key Features

1. Tariff Elimination:

- Almost **98% of tariffs** on goods traded between Canada and the EU were removed upon provisional application.

2. Market Access:

- Provides **Canadian exporters access to the EU market** (500+ million consumers).
- **EU firms** gain access to **Canadian public procurement**, a first for Canada in an FTA.

3. Investment Protection:

- Establishes a new **Investment Court System (ICS)** to resolve disputes between investors and states, replacing the older ISDS (Investor-State Dispute Settlement) model.

4. Sustainability Provisions:

- Includes commitments to **labor rights, environmental protection, and sustainable development**.

5. Services Liberalization:

- Covers financial services, maritime transport, telecom, and professional services.

6. Geographical Indications (GIs):

- Protects certain EU food and drink names (like Parma ham, Roquefort cheese) in the Canadian market.

Note:

- The **Comprehensive Economic and Trade Agreement (CETA)** is **only between Canada and the European Union (EU)**.
- **India is not a party** to that agreement.
- India has signed or is negotiating **similar comprehensive trade agreements**, but under **different names**, such as:

Type of Agreement	Partner Country/Region	Name / Status
Comprehensive Economic Cooperation Agreement (CECA)	Singapore, Malaysia	Signed and in force
Comprehensive Economic Partnership Agreement (CEPA)	Japan, South Korea, UAE	Signed and in force
Early Progress Trade Agreement (EPTA) → precursor to CEPA	Canada	Under negotiation
India-EU Free Trade Agreement (FTA)	European Union	Under negotiation (resumed in 2022)

PYQ REFERENCE:

Q. With reference to the international trade of India at present, which of the following statements is/are correct?

- 1. India's merchandise exports are less than its merchandise imports.
- 2. India's imports of iron and steel, chemicals, fertilisers and machinery have decreased in recent years.
- 3. India's exports of services are more than its imports of services.
- 4. India suffers from an overall trade/current account deficit.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 4 only
- (c) 3 only
- (d) 1, 3 and 4 only**

Source: <https://www.thehindu.com/opinion/op-ed/an-anchor-for-india-uk-ties-their-economic-partnership/article70140514.ece>

89. India's Exports Trend

89. With reference to the recent trends in India's international trade (April–August 2025), which of the following statements is/are correct?

- India's services exports have grown at a higher rate than its merchandise exports.
- Electronic goods have emerged as one of the fastest-growing export sectors for India.
- India's total exports combining merchandise and services have declined compared to the previous year.

Select the correct answer using the code given below:

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: Export Surge: India Steps Up on Global Stage

India's Export Growth (April–August 2025)

Overall Export Growth

- India's **total exports**, combining **merchandise and services**, grew by **5.19%** in the first five months of FY 2025–26 (April–August). **Hence statement 3 is incorrect.**
- The total value reached **USD 346.10 billion**, indicating resilience in global trade engagement.

Month-on-Month Growth

- In **August 2025 alone**, total exports rose by **4.77%** compared to August 2024.
- Reflects steady recovery and positive trade momentum, even amid global uncertainties.

Merchandise vs Services Exports

- **Merchandise exports**: Increased by **2.31%** in April–August 2025.
- India's merchandise export to the **USA was USD 6.87 billion** in August 2025.

India's Merchandise Export to USA vs. other countries			
India's export destinations	July 2025 (In USD million)	August 2025 (In USD million)	
USA	8012.45	6865.47	↓
UAE	2984.66	3245.26	↑
Netherlands	1668.92	1829.77	↑
Australia	495.65	554.67	↑

Nepal	600.85	617.26	↑
South Africa	611.28	654.58	↑
Hong Kong	548.15	584.70	↑

- **Services exports**: Rose significantly by **8.65%**, underlining India's strength in IT, business services, and consulting. **Hence statement 1 is correct.**

- India's exports to **Hong Kong, China, USA, Germany, Korea, UAE, Nepal, Belgium, Bangladesh, and Brazil** have climbed the ladder of growth in April–August 2025 vs. April–August 2024.

Electronic Goods: Fastest-Growing Export Sector

- **Electronic goods exports** saw a massive **40.63%** growth — the highest among all sectors. **Hence statement 2 is correct.**
- Driven by PLI scheme support, increased global demand, and mobile/device manufacturing exports.

Diversification of Export Base

- **Non-petroleum, non-gems & jewellery exports** increased by **7.76%**, suggesting a broader, more stable export base.
- Reduces dependency on volatile commodity-linked sectors.

Top Performing Export Sectors

- Significant growth observed in:
 - **Electronics**
 - **Engineering goods**
 - **Drugs and pharmaceuticals**
 - **Textiles and apparel**
 - **Agricultural and processed food products**
- Indicates India's growing capability in high-value manufacturing and agritech.

Key Government Schemes Supporting Exports

- **RoDTEP (Remission of Duties and Taxes on Exported Products)**: Refunds embedded taxes not rebated through other schemes.
- **PLI (Production-Linked Incentive) Schemes**: Boosts manufacturing in electronics, pharmaceuticals, textiles, etc.
- **Districts as Export Hubs**: Promotes local products through district-level identification and support.
- **TIES (Trade Infrastructure for Export Scheme)**: Improves export infrastructure like testing labs, cold chains, logistics.

Logistics & Trade Facilitation Initiatives

- **National Logistics Policy**: Reduces logistics costs, enhances competitiveness.
- **PM GatiShakti**: Unified digital platform for coordinated infrastructure planning across ministries.
- **National Single Window System**: Streamlines approvals and clearances for exporters.
- **Trade Connect e-Platform**: Enhances outreach and support for exporters via digital means.

GST Reform for Exporters (Effective 1st Nov 2025)

- **90% provisional GST refund** to exporters of zero-rated supplies through a **risk-based system**.
- **Rectification of inverted duty structure** in selected sectors to reduce input tax burden.

Export Target for FY 2025–26

- India has set an ambitious **export target of USD 1 trillion**.

● As of August 2025, **34.61%** of the target has already been achieved, indicating a strong performance trajectory.

New Trade Agreements

- India-UK Comprehensive Economic and Trade Agreement (CETA)
- India-EU Free Trade Agreement
- India-Australia Comprehensive Economic Cooperation Agreement
- India-New Zealand Free Trade Agreement
- India and Oman Comprehensive Economic Partnership Agreement (CEPA)
- India- Peru Free Trade Agreement (FTA)
- India- Chile Comprehensive Economic Partnership Agreement (CEPA)
- India- UAE Comprehensive Economic Partnership Agreement (CEPA)

PYQ REFERENCE: (2020)

Q. With reference to the international trade of India at present, which of the following statements is/are correct?

1. India's merchandise exports are less than its merchandise imports.
2. India's imports of iron and steel, chemicals, fertilisers and machinery have decreased in recent years.
3. India's exports of services are more than its imports of services.
4. India suffers from an overall trade/current account deficit.

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 2 and 4 only
(c) 3 only
(d) 1, 3 and 4 only

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2175702>

90. Payments Regulatory Board

90. With reference to the 'Payments Regulatory Board Regulations, 2025', consider the following statements:

1. It repeals the Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008.
2. The 2025 Regulations retain the RBI Governor as the chairperson and specify that the regulatory board will only have the RBI Deputy Governor in charge of payment and settlement systems.
3. The members to be nominated by the government must have expertise in the fields of payment systems, be less than 70 years of age, not be an MP/MLA, and not have been convicted of an offence punishable with imprisonment of at least 180 days.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 1 and 2 only
(c) 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

In NEWS: RBI constitutes 6-member Payments Regulatory Board

Payments Regulatory Board Regulations, 2025:

- It repeals the **Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008. Hence statement 1 is correct.**
- The 2008 Regulations constituted a committee of the RBI's central board for the regulation and supervision of payment and settlement systems.

Key changes include:

Composition: Under the 2008 Regulations, the committee comprised:

- (i) RBI governor as the chairperson,

(ii) deputy governors, and

(iii) up to three directors of the central board.

● Two executive directors and the principal legal advisor of RBI were permanent invitees to the Board.

● It could also invite persons with experience in the fields of payment and settlement systems as permanent or temporary invitees.

● The 2025 Regulations retain **the RBI Governor as the chairperson** and specify that the regulatory board will only have the RBI Deputy Governor in charge of payment and settlement systems. **Hence statement 2 is correct.**

● Instead of directors of the Central Board, the Board will nominate one RBI officer.

● Three persons will be nominated by the central government.

● RBI executive directors will no longer be permanent invitees to the Board.

Eligibility for nominated members: Members to be nominated by the central government must:

(i) have expertise in the fields of payment systems, information technology, or law,

(ii) be less than 70 years of age,

(iii) not be an MP/MLA, and

(iv) not have been convicted of an offence punishable with imprisonment of at least 180 days. **Hence statement 3 is correct.**

PYQ REFERENCE: (2019)

Q. Consider the following statements:

The Reserve Bank of India's recent directives relating to 'Storage of Payment System Data, popularly known as data diktat, command the payment system providers that

1. they shall ensure that entire data relating to payment systems operated by them are stored in a system only in India
2. they shall ensure that the systems are owned and operated by public sector enterprises
3. they shall submit the consolidated system audit report to the Comptroller and Auditor General of India by the end of the calendar year

Which of the statements given above is/are correct?

- (a) 1 only
(b) 1 and 2 only
(c) 3 only
(d) 1, 2 and 3

Source:

<https://indianexpress.com/article/cities/mumbai/rbi-constitutes-6-member-payments-regulatory-board-10280813/>

91. Trade deficit

91. A rising trade deficit in India's Balance of Payments would most likely lead to which of the following consequences?

1. Reduce foreign exchange reserves
2. Depreciation of the domestic currency
3. Decrease in the current account deficit

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: Trade deficit widens 93% in Sept. as services slump

● India's **merchandise exports** in September 2025 rose by **~6.74 % year-on-year** to **USD 36.38 billion**.

- Imports for the same month increased more sharply — by ~16.6 %, reaching **USD 68.53 billion**.
- As a result, the **trade deficit** widened significantly to about **USD 32.1 billion** in September 2025.

Steady growth in exports



Merchandise and services exports together grew **4.45%** in April-September, outpacing import rise and narrowing the trade gap by **2.3%**

		April-September 2024-25 (US\$ Billion)	April-September 2025-26 (US\$ Billion)	Change in %
Merchandise	Exports	213.68	220.12	3.02
	Imports	358.85	375.11	4.53
Services*	Exports	182.03	193.18	6.12
	Imports	97.73	97.68	-0.05

*The latest data for services sector released by RBI is for August 2025. The data for September 2025 is an estimation

SOURCE: MINISTRY OF COMMERCE AND INDUSTRY

Trade Deficit:

- **Trade Deficit** occurs when the **value of a country's imports** of goods and services **exceeds** the **value of its exports** during a given period.
- Formula: **Trade Deficit = Imports - Exports**

Types

1. **Merchandise (Goods) Trade Deficit** – Difference between export and import of **tangible goods** only.
2. **Current Account Deficit (CAD)** – Includes goods + services + income + transfers. Trade deficit is a **major component** of CAD.

Causes of Trade Deficit in India

1. **High import dependence** – especially on crude oil, gold, electronics.
2. **Low export diversification** – concentrated in a few sectors.
3. **Rising global commodity prices** – increases import bill.
4. **Strong domestic demand** – boosts imports.
5. **Weak global demand** – limits export growth.
6. **Currency depreciation** – may not always improve exports due to import content in exports.

Implications

Positive Aspects

- Indicates strong **domestic consumption and investment**.
- Imports of **capital goods and raw materials** can boost future production capacity.

Negative Aspects

- **Pressure on Current Account** → widening CAD. **Hence 3 is incorrect.**
- **Depreciation of Rupee** due to higher demand for foreign currency. **Hence 2 is correct.**
- **Inflationary pressures** (imported inflation).
- May reduce **foreign exchange reserves** if financed unsustainably. **Hence 1 is correct.**

Policy Measures to Manage Trade Deficit

1. Export Promotion:

- *Production-Linked Incentive (PLI) schemes*
- *Remission of Duties and Taxes on Exported Products (RoDTEP)*
- *Make in India and India-Middle East-Europe Economic Corridor (IMEC) initiatives*

2. Import Substitution:

- Encouraging domestic manufacturing (e.g., electronics, solar modules, defence).
- *Atmanirbhar Bharat* programs.

3. Diversification of Export Markets:

- FTAs (India-UAE CEPA, India-Australia ECTA, ongoing EU talks).

4. Macroeconomic Stability:

- Managing inflation and exchange rate through monetary/fiscal policy.

PYQ REFERENCE: (2016)

Q. There has been a persistent deficit budget year after year. Which action/actions of the following can be taken by the Government to reduce the deficit?

1. Reducing revenue expenditure
2. Introducing new welfare schemes
3. Rationalizing subsidies
4. Reducing import duty

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only**
- (d) 1, 2, 3 and 4

Source: <https://www.thehindu.com/business/Economy/indias-exports-rise-in-september/article70166719.ece>

92. Import Substitution (IS) subsidies

92. Which one of the following statements best describes the term 'Import Substitution'?

- (a) Subsidies provided to exporters to enhance the competitiveness of domestic goods in foreign markets.
- (b) Subsidies given to domestic industries to encourage production of goods that replace imports.
- (c) Financial incentives offered to foreign firms for setting up manufacturing units in the country.
- (d) Subsidies provided to reduce the prices of imported goods for consumers.

Answer: (b) Subsidies given to domestic industries to encourage production of goods that replace imports.

Explanation:

In NEWS: What is China's complaint against India at the WTO?

China's WTO Complaint Against India:

- **China has lodged a complaint at the WTO** alleging that India's **Production-Linked Incentive (PLI) schemes** for certain sectors violate WTO rules on subsidies.
- The complaint targets **three PLI schemes** —
 1. **Advanced Chemistry Cell (ACC) batteries,**
 2. **Automobile and auto components,** and
 3. **Electric vehicles (EVs).**

What is the PLI Scheme?

- **Launched in 2020,** to boost **domestic manufacturing and exports.**
- Provides **financial incentives based on incremental sales** to industries.
- Aims to integrate **MSMEs,** promote **backward linkages,** and enhance India's role in **global value chains.**

China's Allegations

- The PLI schemes provide **subsidies linked to Domestic Value Addition (DVA)** —
 - **Auto sector:** 50% DVA required.
 - **ACC batteries:** 25% DVA required.
- China claims these **discriminate against imported goods,** especially Chinese components, and are thus **"import substitution" (IS) subsidies,** which are **prohibited under WTO law.**

WTO Law on Subsidies

- Governed by the **Subsidies and Countervailing Measures (SCM) Agreement.**

● *Import Substitution (IS) subsidies* are **government incentives** provided to domestic industries to **reduce dependence on imported goods** by **encouraging local production** of those goods. **Hence option (b) is correct.**

● Governments may offer **tax incentives, capital subsidies, cheaper credit, tariff protection, or research support** to local producers.

● These subsidies help **domestic industries compete with imported products** in both cost and quality.

Types of Subsidies under SCM Agreement

1. Prohibited Subsidies –

- **Export subsidies** (linked to export performance)
- **Import substitution (IS) subsidies** (linked to use of domestic goods over imported goods)

2. **Actionable Subsidies** – May be challenged if they harm another country's trade.

3. **Non-actionable Subsidies** – Allowed (e.g., R&D or regional development).

India's Defence

● The **DVA conditions ≠ Local content requirements.**

● **Domestic value addition** can occur through design, technology, or assembly — not necessarily by using only domestic goods.

● Therefore, **PLI schemes may not qualify as IS subsidies** under WTO law.

PYQ REFERENCE: (2016)

Q. Which of the following best describes the term 'import cover', sometimes seen in the news?

(a) It is the ratio of value of imports to the Gross Domestic Product of a country

(b) It is the total value of imports of a country in a year

(c) It is the ratio between the value of exports and that of imports between two countries

(d) It is the number of months of imports that could be paid for by a country's international reserves

Source: <https://www.thehindu.com/news/international/what-is-chinas-complaint-against-india-at-wto-explained/article70218390.ece#:~:text=It%20alleges%20that%20India%20is.in%20contravention%20of%20WTO%20law.>

93. National Manufacturing Mission

93. With reference to the National Manufacturing Mission, consider the following statements:

1. It aims to increase the share of the manufacturing sector in India's GDP to 25% and create 100 million jobs.

2. The Mission is implemented under the Ministry of Commerce and Industry.

Which of the statements given above is/ are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: (c) Both 1 and 2

Explanation:

In NEWS: Cabinet note on National Manufacturing Mission underway: NITI Aayog VC Suman Bery

National Manufacturing Mission:

● **Launched by:** Government of India

● **Implementing Body:** **National Manufacturing Competitiveness Council (NMCC)** under the **Ministry of Commerce and Industry.** **Hence statement 2 is correct.**

● **Objective:** To enhance the **share of manufacturing in India's GDP** and make India a **global manufacturing hub.**

● **Vision:** Promote **innovation, skill development, technology upgradation, and sustainable manufacturing.**

● **Target:** Increase manufacturing sector's share in GDP from around **15-16% to 25%**, and create **100 million jobs.** **Hence statement 1 is correct.**

● **Focus Areas:**

○ Improvement in **industrial infrastructure and logistics**

○ **Ease of Doing Business** reforms

○ **Adoption of new technologies** (Industry 4.0)

○ **SME and cluster development**

○ **Sustainability and energy efficiency** in manufacturing

● **Related Initiative:** It aligns closely with the **Make in India** programme and **National Manufacturing Policy (NMP).**

PYQ REFERENCE: (2017)

Q. Consider the following in respect of 'National Career Service':

1. National Career Service is an initiative of the Department of Personnel and Training, Government of India.

2. National Career Service has been launched in a Mission Mode to improve the employment opportunities to uneducated youth of the country.

Which of the above statements is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Source: <https://indianexpress.com/article/business/share-of-manufacturing-in-value-added-has-remained-stubbornly-fixed-10334444/>

94. The Sevilla Forum on Debt

94. Consider the following statements with respect to the 'Sevilla Forum on Debt':

I. It was launched at the 16th meeting of the United Nations Conference on Trade and Development) in Geneva.

II. It serves as an inclusive space where developed and developing countries and other stakeholders can engage in debt-related dialogue.

Which of the statements given above is/are correct?

(a) I only

(b) II only

(c) Both I and II

(d) Neither I nor II

Answer: (c) Both I and II

Explanation:

In NEWS: New Sevilla Forum launched to tackle global debt crisis

Sevilla Forum on Debt:

● A new initiative called the Sevilla Forum on Debt has been launched at the UNCTAD 16 (the 16th meeting of the United Nations Conference on Trade and Development) in Geneva. **Hence statement I is correct.**

● This forum is a Spanish-led initiative, supported by the United Nations Department of Economic and Social Affairs (UN DESA) and UNCTAD.

Significance:

● Global public debt hit US \$102 trillion in 2024, with developing nations owing US \$31 trillion and paying US \$921 billion in interest.

● Around 3.4 billion people live in countries spending more on debt than on health or education.

● The Sevilla Forum was launched to create an inclusive platform for debtor and creditor nations, experts, and civil society to drive debt reform, promote fair lending and borrowing, and build a more equitable global debt system.

Key goals of the Sevilla Forum:

- Serve as an inclusive space where developed & developing countries (and other stakeholders) can engage in debt-related dialogue. **Hence statement II is correct.**
- Track the implementation of the commitments made under the “Sevilla Commitment”.
- Advance principles of responsible borrowing and lending.
- Reform the global debt architecture so it becomes fairer and more development-oriented.
- Transform political commitments into institutional mechanisms for fairer, more predictable debt governance.

UNCTAD:

- The United Nations Conference on Trade and Development (UNCTAD) is a permanent intergovernmental body established in 1964.
- It is part of the United Nations Secretariat and serves as the main UN body dealing with trade, investment, and development issues.
- UNCTAD works to help developing countries integrate into the global economy in a way that supports inclusive and sustainable development.

PYQ REFERENCE: (2017)

Q. The Global Infrastructure Facility is a/an

- (a) ASEAN initiative to upgrade infrastructure in Asia and financed by credit from the Asian Development Bank.
- (b) World Bank collaboration that facilitates the preparation and structuring of complex infrastructure Public-Private Partnerships (PPPs) to enable mobilization of private sector and institutional investor capital.**
- (c) Collaboration among the major banks of the world working with the OECD and focused on expanding the set of infrastructure projects that have the potential to mobilize private investment.
- (d) UNCTAD funded initiative that seeks to finance and facilitate infrastructure development in the world.

Source: <https://www.downtoearth.org.in/climate-change/new-sevilla-forum-on-debt-launched-to-tackle-global-debt-crisis>

95. World Trade Organization (WTO)

95. Consider the following statements with respect to the World Trade Organization (WTO):

1. The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.
2. India is one of the founding members of the World Trade Organization (WTO), which came into force on 1 January 1995.
3. It follows the Most Favoured Nation (MFN) principles by discriminating between its trading partners.

Which of the statements given above is/are not correct?

- (a) 2 only
(b) 3 only
(c) 1 and 2 only
(d) 2 and 3 only

Answer: (b) 3 only

Explanation:

In NEWS: China files WTO complaint on India's EV, battery subsidies

WORLD TRADE ORGANIZATION (WTO)

- The **World Trade Organization (WTO)** is the **only global international organization** dealing with the **rules of trade** between nations. **Hence statement 1 is correct.**
- It ensures that trade flows **smoothly, predictably, and freely** as possible among member countries.
- **Came into existence: 1 January 1995**
- **Headquarters:** Geneva, Switzerland
- **Replaced:** *General Agreement on Tariffs and Trade (GATT)*, established in 1947
- **Current Membership:** 164 members (as of 2025)
- **India:** Founding member. **Hence statement 2 is correct.**

Objectives

1. Promote **free and fair international trade**.
2. Ensure **non-discrimination** (Most-Favoured-Nation & National Treatment principles).
3. Encourage **predictability** and **transparency** in trade policies.
4. Promote **economic development**, especially in developing countries.
5. Settle **trade disputes** through a structured mechanism.

Key Principles

Principle	Meaning
Most Favoured Nation (MFN)	A country cannot discriminate between its trading partners. Hence statement 3 is incorrect.
National Treatment	Imported and locally produced goods should be treated equally once they enter the market.
Transparency	Members must publish trade regulations and notify changes.
Reciprocity	Mutual reduction of trade barriers.
Special and Differential Treatment (SDT)	Flexibilities for developing and least-developed countries.

Structure

1. **Ministerial Conference** – highest decision-making body; meets biennially.
2. **General Council** – conducts day-to-day work, also meets as Dispute Settlement Body (DSB) and Trade Policy Review Body (TPRB).
3. **Committees and Councils** – e.g., Council for Goods, Services, TRIPS, etc.
4. **Director-General** – administrative head. (As of 2025: Dr. Ngozi Okonjo-Iweala)

Major Agreements under WTO

Agreement	Purpose
GATT (Goods)	Trade in goods, tariff reduction.
GATS (Services)	Trade in services like banking, telecom, etc.
TRIPS	Intellectual property rights.
TRIMS	Investment measures related to trade.
AoA (Agreement on Agriculture)	Fair competition and reduction of subsidies.

SPS (Sanitary and Phytosanitary Measures)	Food safety and animal/plant health.
TBT (Technical Barriers to Trade)	Standards and regulations in trade.

Dispute Settlement Mechanism (DSM)

- Core function: ensures **rules-based trade**.
- If members violate rules, disputes are handled through consultation, panel, appeal, and implementation.
- **Appellate Body crisis** since 2019 — U.S. blocking appointments → dispute settlement stalled.

India's Interests:

- Protecting **farmers** from unfair subsidies by developed nations.
- Promoting **services exports** (IT, health, education).
- Ensuring **patent flexibility** under TRIPS for affordable medicines.
- Safeguarding **food security** via **Public Stockholding (PSH)**.

Key Issues for India:

- **Agricultural subsidies** by rich countries distort trade.
- **E-commerce & digital trade** regulation concerns.
- **Fishery subsidy negotiations** – India demands special treatment for artisanal fishers.
- **Trade and climate change** linkages.

PYQ REFERENCE: (2017)
Q. Consider the following statements:
 1. India has ratified the Trade Facilitation Agreement (TFA) of WTO.
 2. TFA is a part of WTO's Bali Ministerial Package of 2013.
 3. TFA came into force in January 2016.
Which of the statements given above is/are correct?
 (a) 1 and 2 only
 (b) 1 and 3 only
 (c) 2 and 3 only
 (d) 1, 2 and 3

Source: <https://www.thehindu.com/business/china-files-complaint-against-india-in-world-trade-organisation-over-ev-battery-subsidies/article70168588.ece>

96. Asia-Pacific Economic Cooperation (APEC)

96. Consider the following countries:

- I. Australia
- II. Bangladesh
- III. Japan
- IV. Canada
- V. Russia
- VI. India

How many of the above are members of Asia-Pacific Economic Cooperation (APEC) ?

- (a) Only three
- (b) Only four
- (c) Only five
- (d) All the six

Answer: (b) Only four
Explanation:

In NEWS: South Korea, US, Japan to Hold Trilateral Diplomatic Talks at APEC
 U.S. doing a trade deal with India: Trump. At the APEC CEO summit in South Korea, President Trump says he has a great relationship with Modi

Asia-Pacific Economic Cooperation (APEC)

- **Established:** 1989
- **Purpose:** To promote **free trade and economic cooperation** across the **Asia-Pacific region**.
- **Type:** A **regional economic forum** — **not a treaty-based organization** (i.e., its decisions are non-binding).
- **Headquarters:** **Singapore**

Members



Hence option (b) is correct.

Objectives

- Promote **free and open trade and investment** in the Asia-Pacific.
- Enhance **regional economic integration**.
- Encourage **economic and technical cooperation (ECOTECH)**.
- Facilitate **business and investment** through easier trade procedures.
- Promote **sustainable and inclusive growth**.

Important Initiatives

- **Bogor Goals (1994):** Aim for *free and open trade* by
 - 2010 for developed members,
 - 2020 for developing members.
- **APEC Business Advisory Council (ABAC):** Gives private-sector input.
- **APEC Connectivity Blueprint (2015–2025):** To improve physical, institutional, and people-to-people connectivity.

India and APEC

- **India is not a member** but has **sought membership since 1991**.
- India was **granted observer status in 2011** in some meetings.
- Opposition mainly from members citing:
 - India's geographical limits (not directly Pacific Rim),
 - Size and diversity of its economy,
 - Consensus-based decision-making delays.
- **India's inclusion** is supported by countries like the **USA, Japan, and Australia**, but **blocked by China and some ASEAN members**.

PYQ REFERENCE: (2025)
Q. Consider the following countries:
 I. Austria
 II. Bulgaria
 III. Croatia
 IV. Serbia
 V. Sweden
 VI. North Macedonia
How many of the above are members of the North Atlantic Treaty Organization?
 (a) Only three
 (b) Only four
 (c) Only five
 (d) All the six

Source: <https://www.thehindu.com/news/national/trump-praises-pm-modi-repeats-claims-on-india-pakistan-mediation/article70215804.ece>
<https://www.newsonair.gov.in/south-korea-us-japan-to-hold-trilateral-diplomatic-talks-at-apec/>

97. State Mining Readiness Index

97. With reference to the State Mining Readiness Index, consider the following statements:

- I. The State Mining Readiness Index (SMRI) is a benchmarking tool introduced by the NITI Aayog.
- II. Madhya Pradesh was ranked first in the State Mining Readiness Index released by the Ministry of Mines.

Which of the statements given above is/are correct?

- (a) I only
- (b) I and III
- (c) II only
- (d) II and III

Answer: (c) II only

Explanation:

In NEWS: Ministry of Mines releases State Mining Readiness Index and State Rankings

The State Mining Readiness Index (SMRI):

- The State Mining Readiness Index (SMRI) is a benchmarking tool introduced by the Ministry of Mines, India, to evaluate how prepared and performance-oriented states are in the mining sector (especially for non-coal minerals). **Hence statement I is incorrect.**
- It is part of the reforms framework announced in Union Budget 2025-26, and linked to incentive schemes for states that undertake mining sector reforms.
- The SMRI is used as one component under the mining sector reforms incentive structure.

Structure, Indicators & Categories in SMRI:

The index covers multiple dimensions of state performance in the mining sector, such as:

- Auction performance – how efficiently and transparently states conduct auctions of mineral blocks.
- Early mine operationalization – the speed at which auctioned/allocated blocks are converted into functional operations (i.e. producing mines).
- Thrust on exploration – efforts by the state (or in coordination with central agencies) to explore and map mineral resources (especially non-coal minerals).
- Sustainable mining – incorporation of environmental safeguards, closure planning, rehabilitation, implementation of “star rating” schemes, etc.
- Other supporting indicators may include regulatory environment, ease of doing mining business, institutional readiness, etc.

Categorization of states:

- States are grouped into three categories (A, B, C) based on their mineral endowment (i.e. how richly endowed they are in minerals).
- Within each category, states are ranked relative to peers with similar endowment, so that states with scarce minerals are not unfairly disadvantaged compared to states with abundant mineral resources.

Recent Rankings under SMRI & Incentive Scheme

Category A (high mineral endowment):

1. Madhya Pradesh **Hence statement II is correct.**
2. Rajasthan
3. Gujarat

Category B (moderate mineral endowment):

1. Goa
2. Uttar Pradesh
3. Assam

Category C (low mineral endowment):

1. Punjab
2. Uttarakhand
3. Tripura

Under the incentive scheme linked to SMRI, the top 3 states in each category are eligible for rewards (financial incentives) for achieving high performance in the index.

PYQ REFERENCE: (2019)

Q. With reference to the management of minor minerals in India, consider the following statements:

1. Sand is a ‘minor mineral’ according to the prevailing law in the country.
2. State Governments have the power to grant mining leases of minor minerals, but the powers regarding the formation of rules related to the grant of minor minerals lie with the Central Government.
3. State Governments have the power to frame rules to prevent illegal mining of minor minerals.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2179742>

98. Rangarajan poverty line

98. Consider the following statements with respect to poverty line in India:

1. India’s last officially accepted poverty line is based on the Rangarajan Committee (2014) recommendations.
2. According to the Rangarajan Committee recommendations, a person spending less than ₹27/day in rural areas and ₹33/day in urban areas (at 2011–12 prices) was considered below the poverty line (BPL).

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (d) Neither 1 nor 2

Explanation:

In NEWS: In a recent study, economists from the RBI updated the Rangarajan poverty line for 20 major states.

Poverty Line in India:

- India’s last officially accepted poverty line is based on the **Tendulkar Committee (2009) recommendations**, using 2011–12 NSSO consumption data. **Hence statement 1 is incorrect.**
- According to Tendulkar methodology, a person spending less than ₹27/day in rural areas and ₹33/day in urban areas (at 2011–12 prices) was considered below the poverty line (BPL). **Hence statement 2 is incorrect.**
- The Tendulkar Committee shifted focus from calorie intake to a broader consumption-based poverty line, including health and education.
- The Rangarajan Committee (2014) proposed a higher poverty line (₹32/day rural, ₹47/day urban) and estimated poverty at 29.5%, but its recommendations were not adopted officially.
- RBI economists (2024) updated Rangarajan poverty lines using HCES 2022–23, but this is not yet government-endorsed.
- India has not officially updated its poverty line since 2011–12, despite new surveys like the Household Consumption Expenditure Survey (HCES) 2022–23.
- NITI Aayog, replacing the Planning Commission, now uses the Multidimensional Poverty Index (MPI) for tracking non-income-based poverty, aligned with the UNDP-SDG framework.

- According to NITI Aayog's MPI (2023), 11.28% of India's population is multidimensionally poor, down from 29.17% in 2013-14.

PYQ REFERENCE: (2019)

Q. In a given year in India, official poverty lines are higher in some States than in others because

- (a) poverty rates vary from State to State
- (b) price levels vary from State to State**
- (c) Gross State Product varies from State to State
- (d) quality of public distribution varies from State to State

Source: <https://indianexpress.com/article/explained/explained-economics/who-is-poor-updated-rangarajan-poverty-line-india-10278352/>

99. Foreign Portfolio Investment (FPI)

99. Which of the following would include Foreign Portfolio Investment (FPI) in India?

1. Setting up subsidiaries and joint ventures
2. American Depository Receipts
3. Investment in physical assets
4. Purchase of shares and stocks
5. Investment in government securities
6. Real Estate Investment Trusts (REITs)

Select the correct answer using the code given below :

- (a) 1, 2 and 5 only
- (b) 1, 3, 4 and 5 only
- (c) 2, 4, 5 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

Answer: (c) 2, 4, 5 and 6 only

Explanation:

In NEWS: FPIs withdraw from Indian equities for third straight month

Foreign portfolio investment (FPI):

- Foreign portfolio investment (FPI) involves holding financial assets from a country outside of the investor's own.
- FPI holdings can include stocks, **American Depository Receipts**, Global Depository Receipts, bonds, mutual funds, and exchange traded funds.
- FPI consists of passive ownership. An investor does not actively manage the investments or the companies that issue the investments. They do not have direct control over the assets or the businesses.
- Securities and Exchange Board of India (SEBI) operates the FPIs. Recently, SEBI has introduced the Foreign Portfolio Investors Regulations, 2019.
- FPIs also need to follow the Income-tax Act, 1961 and Foreign Exchange Management Act, 1999.

What Includes Foreign Portfolio Investment (FPI) in India?

- **Purchase of shares and stocks** of Indian companies on stock exchanges by foreign investors.
- **Investment in government securities** (like bonds) by foreign investors.
- **Investment in corporate bonds and debentures** by foreign portfolio investors.
- **Mutual funds** or other collective investment schemes managed by foreign entities investing in Indian securities.
- Foreign Institutional Investors (FIIs) and Qualified Foreign Investors (QFIs) investing in listed securities.
- Derivative instruments linked to Indian securities, traded by foreign investors.
- Units of **Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)** bought by foreign portfolio investors.

Hence option (c) is correct.

An individual must fulfill the following conditions to register as FPI:

- As per the Income-tax Act 1961, the applicant should not be a non-resident Indian
- Should not be a citizen of a country that falls under the public statement of FATF.
- Must be eligible to invest in securities outside the country.
- To invest in securities, he/she must have the approval of the MOA / AOA / Agreement.
- A certificate that grants the applicant holds an interest of the development of the securities market.
- In case the bank is the applicant, it must belong to a nation whose central bank is a member of the Bank for International Settlements.

Impacts of FPI Withdrawal from Indian Equities:

- **Stock Market Decline:** Large-scale FPI selling leads to fall in stock prices due to increased supply of shares in the market. This can trigger broader market corrections or increased volatility.
- **Currency Depreciation:** FPIs usually bring in foreign currency to buy equities. Their withdrawal means selling of Indian rupees for foreign currencies, causing rupee depreciation. This can make imports costlier and increase inflationary pressures.
- **Reduced Market Liquidity:** FPIs contribute significantly to market liquidity. Withdrawal reduces liquidity, potentially leading to wider bid-ask spreads and reduced ease of trading.
- **Increased Cost of Capital:** Falling equity prices and market instability can deter new investment and increase the cost of raising capital for Indian companies via equity markets.
- **Pressure on Financial Markets:** FPI outflows can spill over into other asset classes like debt, increasing yields on government bonds and raising borrowing costs for the government and corporates.
- **Investor Sentiment and Confidence:** Large FPI sell-offs may signal or cause a loss of investor confidence in the Indian economy or policy environment, affecting domestic investor behavior as well.
- **Impact on Economic Growth:** Reduced investment and higher borrowing costs can slow down economic activities, impacting growth prospects.

PYQ REFERENCE: (2012)

Q. Which of the following would include Foreign Direct Investment in India?

1. Subsidiaries of foreign companies in India
2. Majority foreign equity holding in Indian companies
3. Companies exclusively financed by foreign companies
4. Portfolio investment

Select the correct answer using the codes given below:

- (a) 1, 2, 3 and 4
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1, 2 and 3 only**

Source: <https://www.thehindu.com/business/fpis-withdraw-from-indian-equities-for-third-straight-month/article70114125.ece>

100. The National Critical Mineral Stockpile (NCMS)

100. With reference to the National Critical Mineral Stockpile (NCMS) in India, consider the following statements:

1. It is designed to ensure long-term availability of minerals critical to national security and economic growth.
2. The NCMS is designed to help India secure supply chains for minerals that are geopolitically sensitive and prone to supply disruptions
3. Domestically mined minerals are only eligible to be stored in the stockpile.

Which of the statements given above is/are correct?

- (a) 1 and 2 only

- (b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: The National Critical Mineral Stockpile (NCMS) is a forthcoming strategic initiative by the Government of India aimed at securing the nation's supply of rare earth elements (REEs) and other critical minerals vital for emerging green technologies.

The National Critical Mineral Stockpile (NCMS):

● The National Critical Mineral Stockpile (NCMS) is a proposed initiative by the Government of India aimed at ensuring the strategic availability of critical minerals essential for the country's economic and security interests.

Hence statement 1 is correct.

● The proposal was recommended in 2023 by the Ministry of Mines, under the Critical Minerals for India framework.

● The NCMS is designed to help India secure supply chains for minerals that are:

- Geopolitically sensitive
- Prone to supply disruptions **Hence statement 2 is correct.**
- Vital for sectors like renewable energy, electric vehicles, electronics, defense, and semiconductors
- Key critical minerals identified for stockpiling include:
 - Lithium
 - Cobalt
 - Nickel
 - Graphite
 - Rare Earth Elements (REEs)
- Tungsten, among others.
- The stockpile would function as a strategic reserve, similar to the Strategic Petroleum Reserve (SPR) maintained for crude oil.

● It aims to:

- Reduce import dependency
- Improve national resilience
- Support India's energy transition and Atmanirbhar Bharat (self-reliant India) goals

● The KABIL initiative (Khanij Bidesh India Ltd), a joint venture of three public sector undertakings, plays a key role in acquiring strategic minerals from abroad. **Hence statement 3 is incorrect.**

● NCMS is aligned with India's broader critical minerals strategy and is part of the vision to develop a critical minerals ecosystem domestically.

PYQ REFERENCE: (2025)

Q. Consider the following statements:

- I. India has joined the Minerals Security Partnership as a member.
- II. India is a resource-rich country in all the 30 critical minerals that it has identified.
- III. The Parliament in 2023 has amended the Mines and Minerals (Development and Regulation) Act, 1957 empowering the Central Government to exclusively auction mining lease and composite license for certain critical minerals.

Which of the statements given above are correct?

- (a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

Source: <https://www.gktoday.in/national-critical-mineral-stockpile-ncms/>

INTERNATIONAL RELATIONS

101. The Plutonium Management and Disposition Agreement (PMDA)

101. Regarding the "Plutonium Management and Disposition Agreement (PMDA)", which one of the following statements is not correct?

- (a) It is an agreement between the United States and Russia to reduce risks from surplus weapons-grade plutonium.
(b) The agreement aims to dispose of at least 34 tonnes of weapons-grade plutonium from each country.
(c) Plutonium disposal methods under the agreement include converting it into mixed oxide (MOX) fuel and irradiating it in fast-neutron reactors.
(d) The PMDA was signed and came into force in 2011.

Answer: (d) The PMDA was signed and came into force in 2011.

Explanation:

In NEWS: Russia moves to withdraw from plutonium agreement with the U.S.

The Plutonium Management and Disposition Agreement (PMDA):

● An agreement signed in 2000 between the United States and Russia to reduce the risks associated with surplus weapons-grade plutonium from dismantled nuclear warheads.

● PMDA was a landmark arms control treaty aimed at nuclear disarmament and reducing the threat posed by leftover Cold War nuclear materials.

● The agreement came into force in 2011 after ratification by both countries.

● It aims to dispose of at least 34 tonnes of weapons-grade plutonium each by converting it into safer, non-weapons forms.

● This process aimed to reduce nuclear proliferation risks and manage nuclear materials responsibly.

Methods of Disposal:

● Converting plutonium into mixed oxide (MOX) fuel, usable in nuclear reactors for electricity generation.

● Irradiating plutonium in fast-neutron reactors to render it unsuitable for weapons.

Challenges:

● Russia suspended implementation in 2016, citing U.S. sanctions and changes in U.S. plutonium disposal methods.

● Russia also criticized what it saw as threats to strategic stability and non-compliance by the U.S.

PYQ REFERENCE: (2018)

Q. What is/are the consequence/consequences of a country becoming the member of the 'Nuclear Suppliers Group'?

1. It will have access to the latest and most efficient nuclear technologies.
2. It automatically becomes a member of "The Treaty on the Non-Proliferation of Nuclear Weapons (NPT)".

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Source: <https://www.thehindu.com/news/international/russia-moves-to-withdraw-from-plutonium-agreement-with-the-united-states/article70140905.ece>

102. International Solar Alliance

102. With reference to the International Solar Alliance (ISA), consider the following statements:

1. The International Solar Alliance (ISA) was jointly launched by India and France during the COP 21 (Paris Climate Conference).

2. Membership of ISA was limited to countries lying between the Tropic of Cancer and the Tropic of Capricorn.
3. India spearheaded the “One Sun, One World, One Grid (OSOWOG)” initiative to create a global solar power grid.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (c) 1 and 3 only

Explanation:

In NEWS: The President of India, inaugurated the opening plenary of the Eighth Session of the International Solar Alliance Assembly (ISA) in New Delhi

International Solar Alliance (ISA):

- The **International Solar Alliance (ISA)** was jointly launched by **India and France** on **30th November 2015** during the **COP 21 (Paris Climate Conference)**. **Hence statement 1 is correct.**
- The **ISA Headquarters** is located in **Gurugram, Haryana**, making it the **first treaty-based intergovernmental organization headquartered in India.**
- The **Framework Agreement** of ISA came into force on **6th December 2017.**
- Membership of ISA was initially limited to countries lying **between the Tropic of Cancer and the Tropic of Capricorn**, but is now **open to all UN member states.** **Hence statement 2 is incorrect.**
- As of 2025, ISA has **116 signatory countries** and **90 countries have ratified** its Framework Agreement.

Objective:

- The main objective of ISA is to **mobilize USD 1 trillion in solar investments by 2030** to promote **global solar deployment.**
- ISA works to **reduce the cost of solar energy, mobilize finance, share technology, and build capacity** among member countries.
- The Alliance promotes the concept of **energy access, equity, and sustainability**, especially for **Least Developed Countries (LDCs)** and **Small Island Developing States (SIDS).**
- The ISA’s vision is reflected in its **“Towards 1000” strategy (2023–2030)** aiming for:
 - **1000 GW** of solar capacity,
 - **USD 1000 billion** mobilized, and
 - **1000 million** people benefitted.

Major ISA initiatives include:

- **STAR-C (Solar Technology and Application Resource Centre)** for capacity building.
- **Global Solar Atlas** for resource mapping.
- **Solar Financing Facility** for de-risking investments.
- **Solar Mini-Grids and Solar Cold Chain Projects** for rural and agricultural applications

India’s Role:

- The **8th Assembly of ISA (2025)** was held in **New Delhi**, inaugurated by the **President of India**, under the theme **“Solar Energy – Empowering Lives, Enabling Development.”**
- India serves as the **host country** and **depository** of the ISA Framework Agreement.
- The ISA promotes the **“One Sun, One World, One Grid (OSOWOG)”** initiative, spearheaded by India, to create a **global solar power grid.** **Hence statement 3 is correct.**
- India’s leadership in ISA demonstrates its commitment to **climate diplomacy** and **South-South cooperation.**

- ISA’s initiatives are part of India’s broader efforts to become a **renewable energy hub** and achieve **net-zero emissions by 2070.**

PYQ REFERENCE: (2025)

Q. Consider the following statements about PM Surya Ghar Muft Bijli Yojana:

- I. It targets installation of one crore solar rooftop panels in the residential sector.
- II. The Ministry of New and Renewable Energy aims to impart training on installation, operation, maintenance and repairs of solar_rooftop systems at grassroot levels.
- III. It aims to create more than three lakhs skilled manpower through fresh skilling, and upskilling, under scheme component of capacity building.

Which of the statements given above are correct?

- (a) I and II only
- (b) I and III only
- (c) II and III only
- (d) I, II and III

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2183262>

103. India-Australia Renewable Energy Partnership (REP)

103. Which among the following are the areas of collaboration under the India-Australia Renewable Energy Partnership (REP)?

1. Solar and wind energy
2. Green hydrogen technology
3. Grid management and storage solutions
4. Clean energy investment and innovation

Select the correct answer using the code given below:

- (a) 1 and 4 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

Answer: (d) 1, 2, 3 and 4

Explanation:

In NEWS: Powering up the Australia-India clean energy partnership

India–Australia Renewable Energy Partnership (REP):

- The India-Australia Renewable Energy Partnership (REP) was launched in September 2021 as part of both countries’ broader efforts to combat climate change and promote clean energy cooperation.
- The partnership aims to advance renewable energy collaboration, especially in:
 - Solar and wind energy
 - Hydrogen technology (especially green hydrogen)
 - Grid management and storage solutions
 - Clean energy investment and innovation. **Hence all are correct.**
- It supports the goals of:
 - India’s National Hydrogen Mission
 - Australia’s Technology Investment Roadmap
- The REP is aligned with both nations’ **net-zero commitments — India by 2070 and Australia by 2050.**
- The partnership enhances:
 - Public and private sector cooperation
 - Research and development exchanges
 - Policy dialogue and capacity building
- The REP also ties into the Indo-Pacific strategic cooperation, especially for promoting energy security and sustainable development in the region.
- It is part of the broader India–Australia Comprehensive Strategic Partnership, which includes trade, defense, education, and climate cooperation.

Source: <https://www.thehindu.com/opinion/op-ed/powering-up-the-australia-india-clean-energy-partnership/article70163996.ece>

104. UN convention against terror financing

104. What is/are the importance/importances of the 'United Nations Convention against Terror Financing'?

1. It criminalizes the collection or provision of funds intended for terrorist acts, even if the acts are not carried out.
2. It applies only to tangible assets and excludes digital or electronic assets.
3. It obliges States to either prosecute or extradite offenders involved in terror financing.

Select the correct answer using the code given below.

- (a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (c) 1 and 3 only

Explanation:

In NEWS: Iran to join UN's anti-terror group

UN convention against terror financing:

- Adopted by the UN General Assembly on 9 December 1999.
- Entered into force on 10 April 2002.
- It was a response to the growing recognition that terrorism cannot function without financial support.

Objective:

To criminalize the financing of terrorism - cutting off funds used to plan, carry out, or support terrorist acts.

Key Provisions

- **Criminalization (Article 2):** Any person who provides or collects funds knowing they will be used to carry out acts of terrorism is guilty of an offence.
- **Definition of "Funds":** Assets of every kind (tangible/intangible, movable/immovable) including electronic or digital assets. **Hence statement 2 is incorrect.**
- **Scope:** Applies whether the terrorist act is actually carried out or not. Covers both direct and indirect financing. **Hence statement 1 is correct.**
- **Jurisdiction (Articles 6-9):** States must establish jurisdiction if the offence occurs in their territory or involves their citizens. Encourages extradition or prosecution (aut dedere aut judicare). **Hence statement 3 is correct.**
- **Information Sharing:** Promotes international cooperation, exchange of intelligence, and assistance in investigations.
- **Relation to Other Instruments:** Works in tandem with UN Security Council Resolution 1373 (2001) after 9/11, which mandated freezing of terrorist assets. Supported by Financial Action Task Force (FATF) standards.

India's Position:

- India signed the convention in 2000 and ratified it in 2010.
- **Domestic laws aligned with it include:**
 - Unlawful Activities (Prevention) Act (UAPA)
 - Prevention of Money Laundering Act (PMLA)
 - National Investigation Agency (NIA) Act

PYQ REFERENCE: (2016)

Q. What is/are the importance/importances of the 'United Nations Convention to Combat Desertification'?

1. It aims to promote effective action through innovative national programmes and supportive international partnerships.
2. It has a special/particular focus on South Asia and North Africa regions,

and its Secretariat facilitates the allocation of major portion of financial resources to these regions.

3. It is committed to bottom-up approach, encouraging the participation of local people in combating the desertification.

Select the correct answer using the code given below.

- (a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Source:

<https://economictimes.indiatimes.com/news/international/world-news/iran-to-join-uns-anti-terror-group/articleshow/124746381.cms?from=mdr>

105. UN Human Rights Council

105. With respect to the elections to the UN Human Rights Council, consider the following statements:

- I. Members once elected are not eligible for re-election.
- II. Members are elected by the UN General Assembly.
- III. A member state must secure an absolute majority of votes to be elected.
- IV. The membership is for a three-year term.

Which of the statements given above is/are correct?

- (a) II and IV only
(b) I, II and III
(c) II, III and IV
(d) I and III only

Answer: (c) II, III and IV

Explanation:

In NEWS: India Elected Unopposed to UN Human Rights Council for 2026-28 Term

- This marks India's fourth consecutive term as a member of the 47-member council, which is responsible for promoting and protecting human rights globally.

UN Human Rights Council (UNHRC):

- The UNHRC is an intergovernmental body within the United Nations responsible for promoting and protecting human rights worldwide.
- It has 47 member states, elected by the UN General Assembly.

How are members elected?

- Members are elected by the UN General Assembly for three-year terms. **Hence statements II and IV are correct.**
- Seats are distributed based on regional groups to ensure geographic representation:
 - African States
 - Asia-Pacific States
 - Eastern European States
 - Latin American and Caribbean States
 - Western European and Other States
- A member state must secure an absolute majority of votes in the General Assembly to be elected. **Hence statement III is correct.**
- Members are generally eligible for two consecutive terms, after which they must step down for at least one term before seeking re-election. **Hence statement I is incorrect.**
- Countries often campaign for seats years in advance.
- Sometimes, countries are elected unopposed if the number of candidates equals the number of available seats in their regional group.
- Once elected, member states participate in sessions, report on human rights situations, and vote on resolutions.

Functions of UNHRC:

- Promote and protect human rights globally.
- Investigate and respond to human rights violations.
- Conduct Universal Periodic Reviews (UPR) of all UN member states.
- Issue resolutions and recommendations on human rights.
- Support special rapporteurs and expert groups on human rights issues.
- Facilitate international cooperation on human rights.
- Hold special sessions for urgent human rights crises.
- Promote implementation of international human rights treaties.

PYQ REFERENCE:

Q. Other than the Fundamental Rights, which of the following parts of the Constitution of India reflect/reflects the principles and provisions of the Universal Declaration of Human Rights (1948)? (2020)

1. Preamble
2. Directive Principles of State Policy
3. Fundamental Duties

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

Q. Consider the following:

1. Right to education.
2. Right to equal access to public service.
3. Right to food.

Which of the above is/are Human Right/Human Rights under "Universal Declaration of Human Rights"?

- (a) 1 only
(b) 1 and 2 only
(c) 3 only
(d) 1, 2 and 3

Source: <https://www.newsonair.gov.in/india-elected-unopposed-to-un-human-rights-council-for-2026-28-term/>

106. ASEAN

106. Consider the following countries:

1. Singapore
2. Thailand
3. India
4. Brunei
5. Cambodia

How many of the above are the ASEAN member nations?

- (a) Only two
(b) Only three
(c) Only four
(d) All five

Answer: (c) Only four

Explanation:

In NEWS: India-ASEAN ties making steady progress: PM

ASEAN:

- ASEAN stands for the Association of Southeast Asian Nations established on August 8, 1967.
- It is a regional organization established to promote **political and economic cooperation and regional stability among its members.**
- **Founding Members:** Indonesia, Malaysia, the Philippines, Singapore, and Thailand

● **Current Members (10 total):** Brunei, Cambodia, Indonesia, Lao PDR (Laos), Malaysia, Myanmar, The Philippines, Singapore, Thailand and Vietnam. **Hence option (c) is correct.**

● ASEAN has dialogue partnerships with countries like China, Japan, South Korea, the U.S., the EU, Australia, and India, forming broader frameworks such as the ASEAN Plus Three (APT) and the East Asia Summit (EAS).

Main Objectives:

- To accelerate economic growth, social progress, and cultural development.
- To promote regional peace and stability through respect for justice and rule of law.
- To collaborate in education, technology, trade, and sustainable development.
- To maintain neutrality and cooperation among major world powers.

Key Institutions:

- **ASEAN Summit:** The highest decision-making body, attended by heads of state or government.
- **ASEAN Secretariat:** Based in Jakarta, Indonesia, it coordinates and monitors implementation of ASEAN agreements.
- **ASEAN Free Trade Area (AFTA):** Promotes free trade among member countries.

22nd ASEAN-India Summit:

- The Summit was held on 26 October 2025 in Kuala Lumpur, Malaysia.
- It was held in conjunction with the 47th ASEAN Summit and related meetings, under Malaysia's chairmanship of ASEAN in 2025.
- The theme of Malaysia's ASEAN Chair for 2025 is "Inclusivity and Sustainability". This theme was referenced in the Summit's discussions.
- India and ASEAN agreed to adopt an Action Plan for 2026-2030 under their Comprehensive Strategic Partnership, with priority areas including digital economy, clean energy, innovation, sustainable infrastructure, healthcare, and narrowing development gaps.
- India announced the year 2026 will be designated as the "Year of ASEAN-India Maritime Cooperation". The focus is on maritime security, blue economy, marine science, transport connectivity and joint maritime initiatives.

PYQ REFERENCE: (2018)

Q. Consider the following countries:

1. Australia
2. Canada
3. China
4. India
5. Japan
6. USA

Which of the above are among the 'free-trade partners' of ASEAN?

- (a) 1, 2, 4 and 5
(b) 3, 4, 5 and 6
(c) 1, 3, 4 and 5
(d) 2, 3, 4 and 6

Source: <https://www.thehindu.com/news/national/pm-modi-47th-asean-summit-virtual-address/article70204727.ece>

107. Line of Actual Control (LAC)

107. With reference to the 'Line of Actual Control (LAC)', which of the following statements are correct?

1. It is a legally recognized or demarcated boundary between India and China, separating territories controlled by each.
2. The border covers the region from Ladakh and up to Aksai Chin region only.

Select the correct answer using the code given below.

- (a) 1 only

- (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

Answer: (d) Neither 1 nor 2

Explanation:

In NEWS: India, China hold fresh round of military talks on LAC peace and stability

Line of Actual Control (LAC):

● **Definition:** The **Line of Actual Control (LAC)** is the **de facto boundary** between **India and China**, separating territories controlled by each.

● **Origin:** The concept was **first proposed by Chinese Premier Zhou Enlai in 1959**, but it **took shape after the 1962 Sino-Indian War**.

● **Legal status:** It is **not a legally recognized or demarcated boundary**, unlike the Line of Control (LoC) with Pakistan. **Hence statement 1 is incorrect.**

● **Disputed nature:** There is **no mutually agreed map** of the LAC; both countries have **different perceptions** of its alignment.

● **Length estimates:**

- **India's estimate:** ~3,488 km
- **China's estimate:** ~2,000 km

● **Divisions of the LAC:**

- **Western Sector:** Ladakh and Aksai Chin region.
- **Middle Sector:** Uttarakhand and Himachal Pradesh.
- **Eastern Sector:** Arunachal Pradesh and Sikkim. **Hence statement 2 is incorrect.**

● **Nature of disputes:** Frequent **transgressions and standoffs** occur due to differing perceptions — most notably the **Galwan Valley clash (2020)** and **Doklam standoff (2017)**.

● **Agreements for peace:**

- 1993: Agreement on Maintenance of Peace and Tranquility along the LAC.
- 1996: Agreement on Confidence-Building Measures (CBMs).
- 2005: Protocol on Modalities for Implementation of CBMs.

PYQ REFERENCE: (2022)

Q. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?

- (a) It is generally believed that they are artificial islands made by a country around the South China Sea.
 (b) **China and Japan engage in maritime disputes over these islands in the East China Sea.**
 (c) A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
 (d) Though International Court of Justice declared them as no man's land, some South - East Asian countries claim them.

Source: <https://www.thehindu.com/news/national/23rd-round-of-india-china-corps-commander-level-meeting-held-at-chushul-moldo/article70215532.ece>

108. India-Middle East-Europe Economic Corridor

108. With reference to 'India-Middle East-Europe Corridor Project' consider the following statements.

1. The India-Middle East-Europe Economic Corridor (IMEC) is a planned economic corridor that aims to bolster economic development by fostering connectivity and economic integration between Asia, the Persian Gulf and Europe.
2. The project was launched to bolster transportation and communication links through rail and shipping networks and also to counter China's Belt and Road Initiative.
3. The corridor is a proposed route from India to Europe through the Suez Canal.

Which of the above statements are correct?

- (a) 1 and 2 only
 (b) 2 and 3 only
 (c) 1 and 3 only
 (d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: The India-Middle East-Europe Economic Corridor visualises maritime connectivity between India and the Arabian Peninsula, as well as high-speed trains running from the ports in the UAE to the Haifa port through Saudi Arabia and Jordan. However, the situation in West Asia mandates that the corridor's routes adapt to political dynamics

The India-Middle East-Europe Economic Corridor:

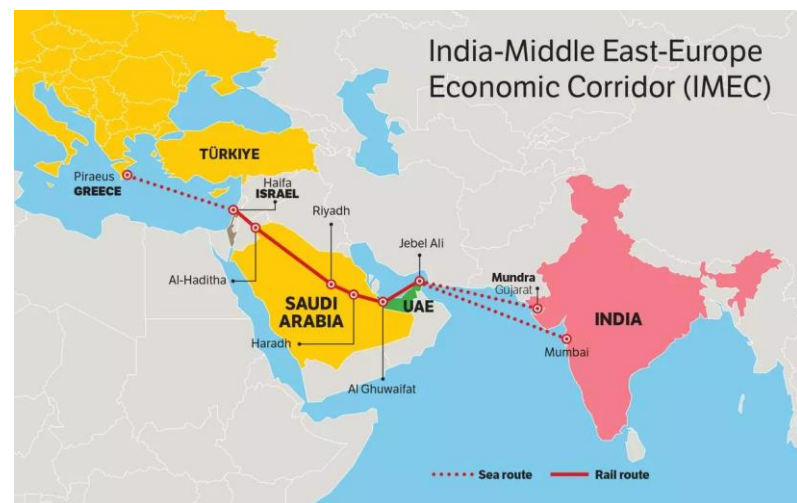
● The India-Middle East-Europe Economic Corridor (IMEC) is a planned economic corridor that aims to bolster economic development by fostering connectivity and economic integration between **Asia, the Persian Gulf and Europe**. **Hence statement 1 is correct.**

● The corridor is a proposed route from **India to Europe** through the **United Arab Emirates, Saudi Arabia, Israel and Greece**. **Hence statement 3 is incorrect.**

● On 09 September 2023 the Memorandum of Understanding (MoU) was signed during the 2023 G20 New Delhi summit by the governments of **India, United States, United Arab Emirates, Saudi Arabia, France, Germany, Italy and the European Union**.

● The project was launched to **bolster transportation and communication links** between Europe and Asia through rail and shipping networks and is seen as a counter to **China's Belt and Road Initiative**. **Hence statement 2 is correct.**

● The memorandum of understanding document has only mapped out the potential geography of a corridor and will compete against the current trade route going through the Suez Canal.



PYQ REFERENCE: (2024)

Q. Consider the following statements:

Statement-I: Sumed pipeline is a strategic route for Persian Gulf oil and natural gas to Europe

Statement-II: Sumed pipeline connects the Red Sea with the Mediterranean Sea.

Which one of the following is correct in respect of the above statements?

- (a) **Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.**
 (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I.
 (c) Statement-I is correct, but Statement-II is incorrect
 (d) Statement-I is incorrect, but Statement-II is correct

Source: <https://www.thehindu.com/news/international/the-future-of-the-imec/article70168507.ece>

109. India-Singapore @ 60

109. Consider the following statements with respect to India - Singapore relations:

1. India and Singapore are members in the Indian Ocean Rim Association (IORA)
2. Singapore has been a part of India's Comprehensive Economic Cooperation Agreement (CECA) since 2005.
3. A Joint Air Force Training between the two countries is held at at Kalaikunda air base, India
4. The Amaravati Capital City project in Andhra Pradesh had Singapore's involvement in early planning phases.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All Four

Answer: (d) All Four

Explanation:

In NEWS: India-Singapore @ 60: Partnership for Growth & Engagement

India-Singapore Relations:

Historical & Cultural Ties:

- Deep-rooted connections date back to ancient maritime trade and cultural exchanges.
- Large Indian diaspora in Singapore (~9% of population), helping build people-to-people links.
- Shared colonial history under the British Empire.

Geopolitical Importance

- Singapore plays a key role in India's Act East Policy and Indo-Pacific vision.
- Both countries are part of forums like:
 - ASEAN Regional Forum (ARF)
 - East Asia Summit (EAS)
 - Indian Ocean Rim Association (IORA) **Hence statement 1 is correct.**
- Singapore supports a free, open, and inclusive Indo-Pacific, aligning with India's maritime strategy.
- Education, Tech, and People-to-People
- MoUs between universities and training institutes.
- Joint skilling programs.
- Singapore is a popular education destination for Indian students.

Strategic & Defence Cooperation

- Singapore is the only country with which all three Indian armed services (Army, Navy, Air Force) have bilateral exercises:
 - SIMBEX (Naval)
 - Bold Kurukshetra (Army)
 - Joint Air Force Training at Kalaikunda air base, India **Hence statement 3 is correct.**
- Defence Cooperation Agreement (DCA) signed in 2003, renewed and enhanced over time.
- Access to each other's military facilities, including air and maritime bases.

Economic & Trade Relations

- Singapore is one of India's largest FDI sources and a major destination for Indian investments.
- Part of the Comprehensive Economic Cooperation Agreement (CECA) since 2005. **Hence statement 2 is correct.**
- Singapore acts as a financial and trade gateway for India into Southeast Asia.

Areas of collaboration:

- Unified Payments Interface (UPI)-PayNow linkage for real-time cross-border transactions (launched in 2023).
- Regulatory and technological cooperation between RBI and Monetary Authority of Singapore (MAS).g., Smart Cities Mission)
- Tech collaboration in AI, blockchain, healthtech, and green technologies.
- Startup exchanges and investor meets.
- India's Smart Cities Mission has benefitted from Singapore's input in:
 - Urban design and digital governance.
 - Sustainable development models and urban transport.
 - Capacity building for Indian city planners.
 - Example: Amaravati Capital City project in Andhra Pradesh had Singapore's involvement in early planning phases. **Hence statement 4 is correct.**

Recent Developments (2025)

- India-Singapore Ministerial Roundtable (ISMR) held in August 2025:
- Ministers from both sides discussed cooperation in digitalisation, sustainability, connectivity, and manufacturing.
- Proposal for an undersea cable: to transmit solar power from India to Singapore—also usable for data transfer.
- Collaboration on semiconductors and India's growing tech ecosystem.

PYQ REFERENCE: (2022)

Q. Consider the following statements:

1. Vietnam has been one of the fastest growing economies in the world in the recent years.
2. Vietnam is led by a multi-party political system.
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region.

Which of the statements given above are correct?

- (a) 2 and 4
- (b) 3 and 5
- (c) 1, 3 and 4**
- (d) 1 and 2

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2174834>

110. 'Samudra Shakti - 2025'

110. Which among the following is the Indo-Indonesian Joint Bilateral Maritime Exercise, recently seen in the news?

- (a) Samudra Shakti
- (b) Konkan
- (c) Mitra Shakti
- (d) Indra

Answer: (a) Samudra Shakti

Explanation:

In NEWS: The Indian Navy is hosting the fifth edition of the Indo-Indonesian Joint Bilateral Maritime Exercise, 'Samudra Shakti - 2025'

'Samudra Shakti - 2025':

- Samudra Shakti - 2025 is a bilateral naval exercise between the Indian Navy and the Indonesian Navy, conducted off the coast of Visakhapatnam. **Hence option (a) is correct.**
- The Indian Navy was represented by INS Kavaratti, an anti-submarine warfare corvette, while the Indonesian Navy deployed KRI John Lie, a corvette equipped with a helicopter.
- The exercise was conducted in two phases - a harbour phase and a sea phase.

- During the harbour phase, both navies engaged in cross-deck visits, joint yoga sessions, sports events, and expert-level exchanges.
- In the sea phase, the navies undertook complex maritime operations including air defence drills, helicopter operations, weapon firing, and Visit, Board, Search, and Seizure (VBSS) exercises.
- The primary objective of Samudra Shakti - 2025 is to enhance interoperability, maritime cooperation, and mutual understanding between India and Indonesia in the Indo-Pacific region.
- This exercise reflects the growing strategic partnership between the two nations and supports their shared commitment to maintaining security and stability in regional waters.

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2179326>

111. Exercises in News

111. Consider the following pairs:

S.No	Military Exercises in News	Participating Countries
1	ZAPAD	Russia and the United Kingdom
2	KONKAN	India and Egypt
3	AUSTRAHIND	India and Australia

How many of the pairs given above are correctly matched?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a) Only one

Explanation:

In NEWS: Military exercises held recently

ZAPAD 2025:

- Zapad 2025 is a joint strategic military exercise conducted **between Russia and Belarus. Hence pair 1 is incorrect.**
- The exercise focused on defensive operations, including scenarios involving restoring territorial integrity in case of external aggression.
- The drills featured modern warfare systems, including drones, electronic warfare, and missile systems, with some involving nuclear-capable platforms.
- The exercise was closely monitored by other countries due to its geopolitical significance near NATO borders.
- India sent 65 personnel drawn from all three services (Army, Air Force, Navy) to take part in the exercise.

KONKAN 2025:

- Konkan 2025 is a bilateral naval exercise between the **Indian Navy and the Royal Navy of the United Kingdom. Hence pair 2 is incorrect.**
- For the first time, both countries deployed their carrier strike groups together - **India's INS Vikrant and the UK's HMS Prince of Wales.**
- The exercise included sea-based operations such as anti-submarine warfare, maritime air operations, and air defence drills.
- It also featured tactical air warfare exercises, including Beyond Visual Range (BVR) air combat drills and coordinated air operations.
- Harbour phase activities involved professional exchanges, cross-deck visits, and joint briefings.
- The objective was to enhance interoperability, demonstrate naval reach, and strengthen maritime security cooperation.

AUSTRAHIND 2025:

- Austrahind 2025 is a bilateral joint military exercise between **India and Australia. Hence pair 3 is correct.**
- The exercise involves company-level operations, primarily focused on **urban and semi-urban combat scenarios.**

- It is conducted under the framework of a United Nations mandate, simulating peacekeeping or multinational missions.
- The aim is to strengthen joint operational capabilities and improve coordination in complex terrain.
- The exercise reflects the growing strategic partnership between India and Australia and their shared commitment to regional security and global peace.

Source: <https://www.thehindu.com/news/national/india-australia-joint-military-exercise-austrahind-begins-in-perth/article70160069.ece>
<https://www.newsonair.gov.in/india-participates-in-russia-led-zapad-2025-military-exercise-with-65-armed-forces-personnel/>
<https://economictimes.indiatimes.com/news/defence/carrier-strike-group-exercise-demonstrates-uk-india-ties-as-global-partners-uk-minister-of-state-for-defence/articleshow/124476631.cms?from=mdr>

112. EXERCISE KONKAN 2025

112. Exercise KONKAN 2025 was held between

- (a) India and UK
- (b) India and US
- (c) India and France
- (d) India and Japan

Answer: (a) India and UK

Explanation:

In NEWS: EXERCISE KONKAN - 2025 COMMENCES ON THE WESTERN SEABOARD

Exercise KONKAN - 2025:

- Location: Off the western coast of India
- Participants: Indian Navy & Royal Navy (UK). **Hence option (a) is correct.**

Format: Two-phase bilateral maritime exercise

Harbour Phase:

- Professional interactions
- Cross-deck visits
- Sports & cultural events
- Subject matter expert exchanges & working group meetings

Sea Phase:

- Complex operational drills:
- Anti-air, anti-surface, anti-submarine warfare
- Flying operations
- Seamanship evolutions

Major Participants:

India:

- INS Vikrant (indigenous aircraft carrier)
- Surface ships, submarines, air assets

UK & Allies:

- UK Carrier Strike Group 25 (UK CSG 25) led by HMS Prince of Wales
- Support from Norway and Japan

Significance:

- Strengthens India-UK maritime cooperation
- Reinforces India-UK Vision 2035 and the Comprehensive Strategic Partnership
- Aims to ensure secure, open, and free seas
- Enhances interoperability and regional maritime stability

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2175054>

113. JAIMEX - 2025

113. JAIMEX is a bilateral naval exercise conducted between India and

- (a) Jamaica
- (b) Israel
- (c) Japan
- (d) Lebanon

Answer: (c) Japan

Explanation:

In NEWS: Japan India Maritime Exercise held from 16 to 18 Oct 2025

JAIMEX:

● JAIMEX (Japan-India Maritime Exercise) is a bilateral naval exercise between the Indian Navy and the Japan Maritime Self-Defense Force (JMSDF). **Hence option (c) is correct.**

● The 2025 edition, called JAIMEX 25, showcased the growing maritime cooperation and strategic partnership between India and Japan in promoting a free, open, and secure Indo-Pacific region.

● **Sea Phase:** 16-18 October 2025, held in the waters off the western coast of Kyushu, Japan.

● **Harbour Phase:** Conducted later at Yokosuka Port, Japan, including professional and cultural interactions.

Participating Forces

From India:

● INS Sahyadri, a Shivalik-class guided-missile stealth frigate commanded by Captain Rajat Kumar.

From Japan:

- JS Asahi (destroyer)
- JS Oumi (fleet oiler)
- Submarine Jinryu
- Units from the Japan Ground Self-Defense Force's 2nd Artillery Brigade and the Japan Air Self-Defense Force's Western Aircraft Control & Warning Wing.

Significance:

● Enhances **interoperability between the Indian Navy and JMSDF** through complex maritime operations.

● Reinforces the Special Strategic and Global Partnership between India and Japan, particularly in defence and maritime security.

● Demonstrates a **shared commitment to maintaining peace, stability, and freedom of navigation in the Indo-Pacific.**

● Builds trust, mutual understanding, and operational coordination between the two naval forces.

● Strengthens regional cooperation among like-minded countries to uphold international maritime law and deter common threats.

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2181539>

114. Polar Silk Route

114. What is the "Polar Silk Route", sometimes seen in the news?

- (a) A proposed railway line connecting China to Europe through the Himalayas.
- (b) A maritime trade route across the Arctic Ocean connecting Asia and Europe.
- (c) A high-speed fiber-optic cable project linking polar research stations.
- (d) An overland pipeline transporting natural gas from Siberia to China via the Arctic.

Answer: (b) A maritime trade route across the Arctic Ocean connecting Asia and Europe.

Explanation:

In NEWS: As China's 'Istanbul Bridge' chugs the Northern Sea Route for the UK, study warns of grim consequences for the Arctic

The Polar Silk Route (PSR):

● The Polar Silk Route (PSR) is a proposed Arctic shipping route linking East Asia and Europe via the Northern Sea Route (NSR) along Russia's Arctic coast. **Hence option (b) is correct.**

● It is part of China's Belt and Road Initiative (BRI) and was formally introduced in China's 2018 Arctic Policy.

● The PSR offers a shorter maritime path—up to 40% less distance—than traditional routes like the Suez Canal.

Strategic Importance and Geopolitical Implications:

● China sees the PSR as a way to diversify trade routes and reduce dependence on chokepoints like the Suez Canal and Strait of Malacca.

● The route strengthens China's position as a "near-Arctic state", increasing its involvement in Arctic affairs.

● The PSR is expected to enhance China-Europe trade by lowering shipping time and fuel costs.

● The PSR may heighten geopolitical competition in the Arctic among China, Russia, the US, and other Arctic nations.

● Russia controls the NSR and requires ships to use icebreaker escorts and follow Polar Code regulations.

● There is growing concern over the lack of international governance for shipping impacts in the Arctic Ocean.

Environmental Concerns:

● The viability of the PSR depends on Arctic sea ice melting, which is a direct result of climate change.

● Increased Arctic shipping could lead to higher emissions of black carbon, which accelerates ice melt when deposited on snow and ice.

● The Arctic region has limited capacity to handle oil spills or maritime accidents, making increased traffic risky.

● Sensitive Arctic ecosystems and Indigenous communities face serious threats from expanded maritime activity.

PYQ REFERENCE: (2022)

Q. Which one of the following statements best describes the 'Polar Code'?

- (a) It is the international code of safety for ships operating in polar waters.
- (b) It is the agreement of the countries around the North Pole regarding the demarcation of their territories in the polar region.
- (c) It is a set of norms to be followed by the countries whose scientists undertake research studies in the North Pole and South Pole.
- (d) It is a trade and security agreement of the member countries of the Arctic Council.

Source: <https://www.downtoearth.org.in/climate-change/as-chinas-istanbul-bridge-chugs-the-northern-sea-route-for-the-uk-study-warns-of-grim-consequences-for-the-arctic>

GEOGRAPHY & MAPS

115. Amazon's 'Flying Rivers'

115. Which of the following mechanisms primarily helps Amazon trees contribute to the flying rivers?

- (a) Photosynthesis
- (b) Transpiration
- (c) Evaporation from rivers
- (d) Condensation

Answer: (b) Transpiration

Explanation:

In NEWS: As Amazon's 'flying rivers' weaken with tree loss, scientists warn of worsening droughts



The forest acts like a pump relaying the water



Amazon's 'Flying Rivers':

- Flying rivers are **airborne "rivers" of water vapor** that carry moisture from the **Atlantic Ocean across the Amazon rainforest**, supporting regional rainfall.
- Concept coined by **Brazilian climate scientist Carlos Nobre in 2006**.
- Early studies quantified how water vapor moves **through and out of the Amazon basin**, influencing rainfall patterns.

Mechanism

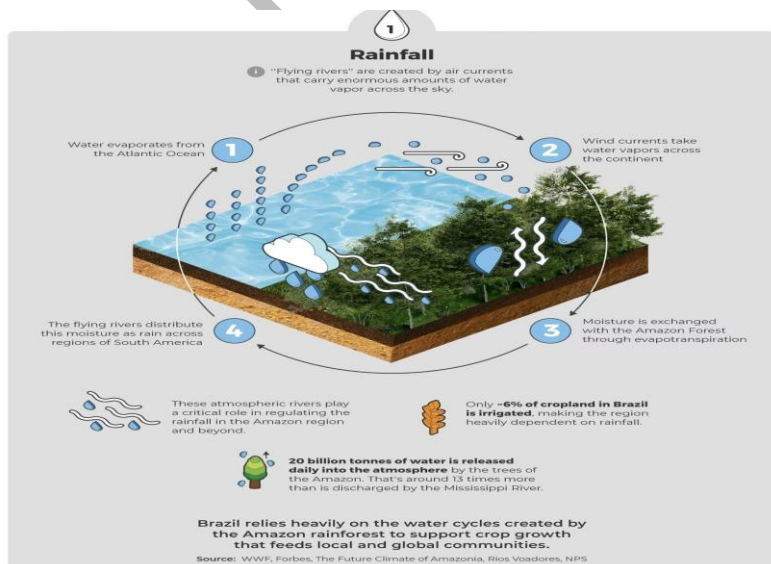
- **Trade winds blow westward along the equator**, carrying moist air from the Atlantic.
- Trees in the Amazon **absorb water from soil and release it into the atmosphere via transpiration**, amplifying moisture transport. **Hence option (b) is correct.**
- Moisture is **relayed thousands of miles inland**, effectively acting as a "natural pump".

Ecological and Climatic Importance

- Ensures **sufficient rainfall** for rivers, agriculture, and forest health.
- Maintains the Amazon as a **carbon sink**, storing **150–200 billion tonnes of CO₂**.
- Supports **biodiversity, Indigenous communities, and regional climate stability**.
- Flying rivers illustrate the **link between forests and atmospheric water cycles**.

Threats

- **Deforestation** weakens transpiration, reducing moisture flow.
- **Climate change** alters trade wind patterns, leading to drought.
- Persistent forest loss could push regions beyond a **tipping point**, transforming rainforest into **savanna**.



PYQ REFERENCE: (2020)

Q. Consider the following statements:

1. Jet streams occur in the Northern Hemisphere only.
2. Only some cyclones develop an eye.
3. The temperature inside the eye of a cyclone is nearly 10°C lesser than that of the surroundings.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only**
- (d) 1 and 3 only

Source:

<https://www.newindianexpress.com/world/2025/Oct/01/as-amazons-flying-rivers-weaken-with-tree-loss-scientists-warn-of-worsening-droughts>

116. Mig La Pass

116. Mig La Pass, recently seen in the news for the construction of the world's highest motorable road, is located in which one of the following mountain ranges?

- (a) Karakoram Range
- (b) Zaskar Range**
- (c) Pir Panjal Range
- (d) Aravalli Range

Answer: (b) Zaskar Range

Explanation:

In NEWS: BRO Breaks Its Own Record, Builds World's Highest Motorable Road at 19,400 ft in Ladakh

World's Highest Motorable Road:

- Border Roads Organisation's (BRO) **Project Himank has constructed the world's highest motorable road at Mig La Pass**, located at an altitude of 19,400 feet in Ladakh.
- This surpasses BRO's earlier record at Umling La (19,024 feet), set in 2021 and recognized by the Guinness World Records.

Strategic & Economic Importance:

- Part of the Likaru–Mig La–Fukche alignment, it creates a third key axis to Fukche, a border village.
- Enhances India's border infrastructure and security posture.
- Expected to boost tourism in Ladakh, offering stunning Indus Valley views.

Mig La Pass:

- Mig La Pass is located in the **eastern part of the Ladakh region** of the Union Territory of Ladakh, India.
- It lies within the Himalayan mountain range, specifically in the **Zaskar range**, which is a sub-range of the greater Himalayas. **Hence option (b) is correct.**
- The region around Mig La Pass is characterized by rugged mountainous terrain with steep slopes, rocky outcrops, and sparse vegetation due to the high altitude.
- The **climate is cold desert type**, with temperatures often dropping well below freezing, especially in winter months. The pass remains snowbound for much of the year.
- Mig La serves as a critical mountain pass **connecting the Likaru area to the west and Fukche village to the east, near the Line of Actual Control (LAC) between India and China.**

PYQ REFERENCE: (2022)

Q. Consider the following pairs:

Peak	Mountains
1. Namcha Barwa	— Garhwal Himalaya
2. Nanda Devi	— Kumaon Himalaya
3. Nokrek	— Sikkim Himalaya

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2
(b) 2 only
 (c) 1 and 3
 (d) 3 only

Source: <https://www.newsonair.gov.in/bro-breaks-its-own-record-builds-worlds-highest-motorable-road-at-19400-ft-in-ladakh/>

117. Gomti river

117. Which of the following rivers meet(s) the Gomti River before it joins the Ganga?

- Sai River
- Varuna River
- Kosi River

Select the correct answer using the code given below:

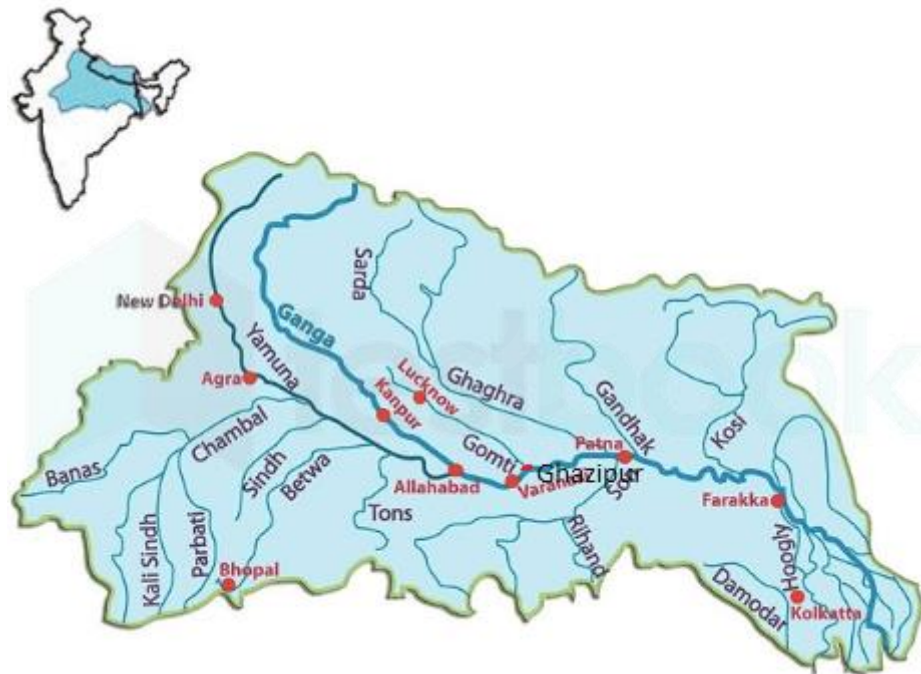
- (a) 1 and 2 only
 (b) 2 only
 (c) 1 and 3 only
 (d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

In NEWS: How UP govt plans to restore Gomti river to its 'clean, uninterrupted, and pristine' form

Gomti River:



- The **Gomti River** is a **tributary of the Ganga River**.
- It flows **entirely within Uttar Pradesh**, making it an **intra-state river**.
- The river has a total length of about **940 kilometres**.

Origin and Course

- The Gomti originates from **Gomat Taal (Fulhaar Jheel)** near **Pipri village, Madhotanda**, in **Pilibhit district**, Uttar Pradesh.
- It flows through major districts such as **Pilibhit, Shahjahanpur, Sitapur, Lucknow, Sultanpur, and Jaunpur**.

- The river finally **joins the Ganga River** near **Saidpur, Kaithi**, in **Ghazipur district**, Uttar Pradesh.

Tributaries

- Major **tributaries of the Gomti River** include:

- **Sai River**
- **Varuna River**
- **Kathina River**
- **Sarayan River**
- **Aril River**
- **Gaugauli River**
- **Bhainsi River**

- Among these, the **Sai River** is a significant right-bank tributary. Hence **1 and 2** are correct.

Cities Located on its Banks

- Important cities situated along the Gomti River are:

- **Lucknow** (state capital)
- **Sultanpur**
- **Jaunpur**

- These cities depend heavily on the river for **water supply, agriculture, and urban development**.

Geographical Characteristics

- The Gomti flows through the **middle Gangetic plain**, characterized by **alluvial fertile soil**.
- It is **seasonal in the upper reaches**, with significant discharge during the **monsoon season**.
- The river supports agriculture in **central and eastern Uttar Pradesh**.

Environmental and Pollution Concerns

- The river faces **severe pollution**, especially in **Lucknow**, due to **industrial effluents, sewage, and encroachment**.
- **Tannery and domestic waste** are major contributors to water quality degradation.
- The **Gomti Action Plan (GAP)** was launched to **restore and clean the river** under the **National River Conservation Plan (NRCP)**.

Projects and Initiatives

- **Gomti Action Plan (GAP):** Focused on cleaning and rejuvenating the river ecosystem.
- **Gomti Riverfront Development Project:** Aimed at river beautification and pollution control in Lucknow.
- Both initiatives fall under **State and Central pollution control frameworks**.

Cultural and Religious Significance

- The Gomti River is considered **sacred in Hindu tradition**.
- It is mentioned in ancient scriptures such as the **Skanda Purana** and **Ramayana**.
- Pilgrims perform rituals and holy dips along its banks, especially in **Jaunpur and Sultanpur**.

Economic Importance

- The river supports **irrigation, agriculture, and fisheries** in Uttar Pradesh.
- Provides **drinking water** to urban centres like **Lucknow**.
- Plays a role in **groundwater recharge** and **floodplain agriculture**.

PYQ REFERENCE: (2024)

Q. With reference to the Himalayan rivers joining the Ganga downstream of Prayagraj from West to East, which one of the following sequences is correct?

- (a) Ghaghara — Gomati — Gandak — Kosi
(b) Gomati — Ghaghara — Gandak - Kosi
 (c) Ghaghara — Gomati — Kosi - Gandak
 (d) Gomati — Ghaghara — Kosi - Gandak

Source: <https://indianexpress.com/article/cities/lucknow/cm-adityanath-launches-gomti-rejuvenation-mission-how-to-revive-gomti-urban-sewage-10303540/>

118. The Sawalkote project

118. The 'Sawalkote project' is a hydroelectric project planned on which among the following rivers?

- (a) Chenab
- (b) Ravi
- (c) Jhelum
- (d) Indus

Answer: (a) Chenab

Explanation:

In NEWS: Environmental clearance to the Sawalkote hydroelectric project on Chenab river

Sawalkote hydroelectric project:

- The Sawalkote project is an upcoming hydroelectric power project in India.
- It is planned to be constructed **on the Chenab River. Hence option (a) is correct.**
- The project aims to harness the hydropower potential of the Chenab basin.
- It will contribute to the region's electricity supply and support sustainable energy goals.
- The Sawalkote project is part of broader efforts to develop renewable energy infrastructure in Jammu & Kashmir.
- It is expected to boost local economy and create employment opportunities during construction and operation.
- The project includes building a dam and associated power generation facilities.

Hydroelectric projects on the Chenab River:

- Dulhasti Hydroelectric Project
- Sawalkote Hydroelectric Project
- Baglihar Hydroelectric Project
- Salal Hydroelectric Project
- Pakal Dul Hydroelectric Project
- Kiru Hydroelectric Project
- Ratle Hydroelectric Project

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/sawalkote-hydropower-project-on-chenab-gets-fresh-environmental-clearance/article70148921.ece>

119. Baratang Mud Volcano

119. Consider the following statements with respect to Mud Volcanoes:

1. They are often associated with tectonically active zones and hydrocarbon-rich sediments.
2. Unlike magmatic volcanoes, eruptions of Mud volcanoes are usually cool.
3. Baratang Mud Volcano located in the Andaman & Nicobar Islands is the only active mud volcano in India.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

In NEWS: GSI team to visit Andaman to investigate eruption at India's only active mud volcano in Baratang

Baratang Mud Volcano:

- Located in Baratang Island, Andaman & Nicobar Islands, India about 100 km north of Port Blair.
- It emits mud, water, and methane gas, not molten lava.
- Height: ~3–4 meters, with small eruptions, especially during monsoon.
- It is surrounded by mangrove forests and limestone formations.
- It is located in a seismically active zone at the India–Burma plate boundary, associated with subduction zones, methane-rich sediments, and tectonic activity.
- It is the only active mud volcano in India. **Hence statement 3 is correct.**
- Eruptions may be triggered by earthquakes or plate movements.



Mud Volcanoes :

- A mud volcano is a geological structure where **mud, water, and gases (mainly methane, carbon dioxide) erupt from underground.**
- Unlike magmatic volcanoes, no molten lava is involved; eruptions are usually cool, and mostly mud flows. **Hence statement 2 is correct.**
- Often associated with tectonically active zones and hydrocarbon-rich sediments. **Hence statement 1 is correct.**

Examples

- Baratang Island, Andaman & Nicobar Islands – only active mud volcano in India.
- Balochistan, Pakistan – multiple mud volcanoes along the Makran coast.
- Azerbaijan (Gobustan) – known as “Land of Fire,” with hundreds of mud volcanoes.
- Trinidad & Tobago – mud volcanoes along fault lines.
- Indonesia & Taiwan – tectonically active mud volcano sites.

PYQ REFERENCE: (2018)

Q. Consider the following statements:

1. The Barren Island volcano is an active volcano located in the Indian territory.
2. Barren Island lies about 140 km east of Great Nicobar.
3. The last time the Barren Island volcano erupted was in 1991 and it has remained inactive since then.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3
- (c) 3 only
- (d) 1 and 3

Source: <https://economictimes.indiatimes.com/news/india/gsi-team-to-visit-andaman-to-investigate-eruption-at-indias-only-active-mud-volcano-in-baratang/articleshow/124318526.cms?from=mdr>

120. Cyclones in the Bay of Bengal

120. Consider the following statements:

Statement I: The Bay of Bengal sees much higher frequency and intensity than the Arabian Sea.

Statement II: The Bay of Bengal's sea surface temperature is typically lower than the Arabian Sea, providing more heat energy.

Statement III: The Bay of Bengal has higher atmospheric moisture content compared to the Arabian Sea.

Which one of the following is correct in respect of the above statements?

- Both Statement II and Statement III are correct and both of them explain Statement I
- Both Statement II and Statement III are correct but only one of them explains Statement I
- Only one of the Statements II and III is correct and that explains Statement I
- Neither Statement II nor Statement III is correct

Answer: (c) Only one of the Statements II and III is correct and that explains Statement I

Explanation:

In NEWS: Cyclone Montha red alert across Andhra Pradesh, Odisha thousands evacuated

Cyclones in the Bay of Bengal:

- Cyclones are intense low-pressure systems characterized by strong winds spiraling towards the center (eye). In the North Indian Ocean, they occur mainly in:
 - Bay of Bengal (BoB)
 - Arabian Sea (AS)
- But the Bay of Bengal sees much higher frequency and intensity than the Arabian Sea. **Hence statement I is correct.**

Why Bay of Bengal sees more Cyclones than Arabian Sea

1. **Warmer Sea Surface Temperatures (SST)**

- The Bay of Bengal's sea surface temperature is typically **higher** than the Arabian Sea, providing more heat energy for cyclones to form and intensify.
- BoB has SST > 28°C — ideal for cyclone formation. **Hence statement II is incorrect.**

2. **High Humidity & Moisture Availability**

- The Bay of Bengal has higher atmospheric moisture content compared to the Arabian Sea. example: Large inflow from rivers (Ganga, Brahmaputra) warms surface waters.
- The Arabian Sea receives a significant amount of dry air from desert countries in the Arabian Peninsula, which disrupts and weakens developing cyclones. **Hence statement III is correct and explains statement I.**

3. **Favorable Wind Shear**

- Low vertical wind shear helps cyclone development.

4. **Remnants of Typhoons from the Pacific**

- Many Pacific typhoons cross over and regenerate in BoB.

5. **Geographical Shape**

- The funnel shape of Bay amplifies storm surge intensity.

6. **Low Salinity & High Evaporation**

- Enhances convection and energy buildup.

Seasonal Pattern

- **Pre-monsoon:** April–May (e.g., Cyclone Amphan, 2020)
- **Post-monsoon:** October–December (most intense & frequent)
- **Monsoon season (June–Sept):** Rare due to unfavorable wind shear.

Classification by IMD (India Meteorological Department)

Category	Wind Speed (km/h)
● Low Pressure	<31
● Depression	31–49
● Deep Depression	50–61
● Cyclonic Storm	62–88
● Severe Cyclonic Storm	89–117
● Very Severe Cyclonic Storm	118–165
● Extremely Severe Cyclonic Storm	166–220
● Super Cyclone	>221

PYQ REFERENCE:

Q. Consider the following statements: (2020)

- Jet streams occur in the Northern Hemisphere only.
- Only some cyclones develop an eye.
- The temperature inside the eye of a cyclone is nearly 10°C lesser than that of the surroundings.

Which of the statements given above is/are correct?

- 1 only
- 2 and 3 only
- 2 only**
- 1 and 3 only

Source: <https://www.thehindu.com/news/national/cyclone-montha-andhra-pradesh-odisha-tamil-nadu-rains-live-updates-october-28-2025/article70210929.ece>

121. Southern Ocean 'Thermal Time Bomb'

121. With reference to the recent research describing the Southern Ocean's "Thermal Time Bomb", consider the following statements:

- The Southern Ocean has absorbed more than 90% of the excess heat produced by human-induced global warming.
- The "Burp Phase" refers to the sudden release of stored oceanic heat that may cause renewed global warming.
- The study predicting this phenomenon was conducted using the UVic v2.9 climate model.
- This process can occur even if atmospheric carbon dioxide levels continue to rise.

Which of the statements given above are correct?

- 1, 2 and 3 only
- 1, 3 and 4 only
- 2 and 4 only
- 1, 2, 3 and 4

Answer: (a) 1, 2 and 3 only

Explanation:

In NEWS: Scientists Warn of 'Ocean Burp' as Massive Heat Reservoir Found Beneath Southern Ocean

Southern Ocean 'Thermal Time Bomb'

- **Discovery:** Scientists have identified a vast **pocket of trapped heat** beneath the **Southern Ocean**, described as a **"thermal time bomb."**
- **Institutions Involved:** **University of Victoria (Canada)** and **German climate scientists.**
- **Model Used:** **UVic v2.9 climate system model. Hence statement 3 is correct.**
- **Phenomenon Name:** The **"Burp Phase"** — a future scenario in which trapped oceanic heat resurfaces even after emissions decline. **Hence statement 2 is correct.**
- **Role of Southern Ocean:**
 - Absorbed **over 90% of the planet's excess heat** and **about 25% of CO₂ emissions** from human activity. **Hence statement 1 is correct.**
 - Acts as Earth's **largest carbon and heat sink.**
- **Mechanism:**
 - Warming, ice melt, and sunlight push **heat deeper** into the ocean.
 - As emissions **drop** and the atmosphere cools, this heat **re-emerges**, potentially **triggering renewed global warming.**
 - The **"Burp Phase"** can occur even without an increase in atmospheric CO₂ levels — it results from **oceanic heat release, not rising emissions.**
- Hence statement 4 is incorrect.**
- **Consequences:**
 - **Melting Antarctic sea ice, disruption of ocean circulation, and loss of marine oxygen and nutrients.**
 - Could cause **another century-long phase of rapid warming**, even with **Net Zero emissions.**

Source: <https://www.gktoday.in/scientists-warn-of-ocean-burp-as-massive-heat-reservoir-found-beneath-southern-ocean/>

122. The Southwest Monsoon Withdrawal

122. Consider the following:

1. No significant rainfall over a large area for 5 consecutive days
2. Prevalence of anticyclonic circulation
3. A significant increase in humidity

How many of the above conditions announce the withdrawal of the Southwest Monsoon in India?

- (a) Only one
- (b) Only two
- (c) All the three
- (d) None

Answer: (b) Only two

Explanation:

In NEWS: Southwest monsoon withdrawal on hold, October to be rainy with warm nights

- The Southwest Monsoon (SWM) is yet to fully withdraw from India, due to persistent low-pressure systems over the Bay of Bengal, causing lingering rainfall over various parts of the country.
- Though the IMD officially ends the monsoon season on 30 September, meteorological conditions (especially over east, central, and western India) still favour continued rain.
- Because of this delay, October is expected to be rainy, with nighttime temperatures being higher than normal (i.e. warm nights) across much of India.

Monsoon withdrawal is not sudden or uniform across the country. It happens gradually:

- Starts from West Rajasthan.
- Progresses over Northwest India, then Central India, and finally from the Southern Peninsula.
- After withdrawal is complete, Northeast Monsoon typically sets in over Tamil Nadu and adjoining areas.

Conditions Required for SW Monsoon Withdrawal:

As per the India Meteorological Department (IMD), the withdrawal of the Southwest Monsoon from northwest India starts when the following three major conditions are met:

1. Cessation of Rainfall

- **No significant rainfall over a large area**, especially in northwest India (Rajasthan, Punjab, Haryana, Delhi, etc.), for 5 consecutive days. **Hence 1 is correct.**

- Typically, this dry spell signals the monsoon weakening and beginning to retreat.

2. Establishment of Anticyclonic Circulation

- **Anticyclonic circulation** (high pressure) develops at lower tropospheric levels (~850 hPa). **Hence 2 is correct.**

- This replaces the low-pressure monsoon troughs and inhibits the formation of rain-bearing systems.

3. Significant Drop in Moisture

- **A reduction in humidity** (lower moisture content in the mid-troposphere). **Hence 3 is incorrect.**

- Wind patterns shift from moist southwesterlies to dry northwesterlies or northeasterlies in the upper levels.

PYQ REFERENCE: (2012)

Q. Consider the following statements:

1. The duration of the monsoon decreases from southern India to northern India.
2. The amount of annual rainfall in the northern plains of India decreases from east to west.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Source: <https://www.downtoearth.org.in/climate-change/southwest-monsoon-withdrawal-on-hold-october-to-be-rainy-with-warm-nights>

123. Cloud-seeding

123. Consider the following statements:

1. Cloud seeding is a type of weather modification that aims to change the amount or type of precipitation, mitigate hail, or disperse fog.
2. Silver iodide and potassium iodide are the most commonly used agents to promote nucleation and precipitation.
3. Cloud seeding is relatively inexpensive Compared to other water augmentation strategies

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (c) All three

Explanation:

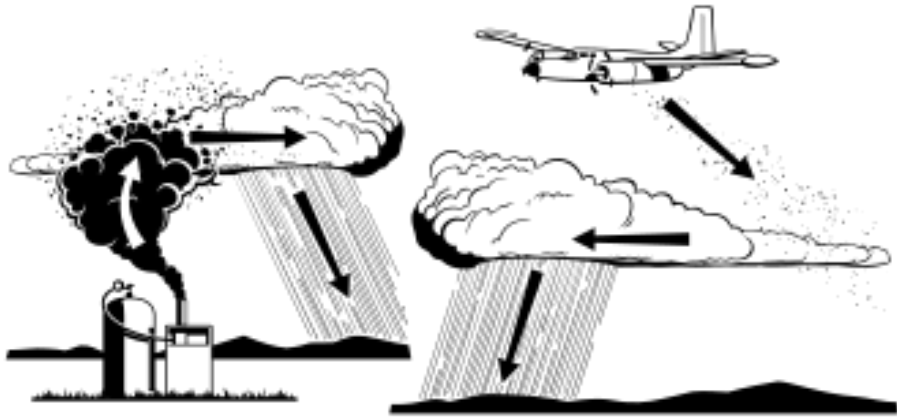
In NEWS: Cloud-seeding trials done in Delhi to combat air pollution

Cloud seeding:

- Cloud seeding is the process of adding special substances like silver iodide and dry ice to clouds to make it rain or snow in areas experiencing water scarcity, less snowfall, or to reduce hail and clear fog. **Hence statement 1 is correct.**

- It can be done using airplanes, rockets, or machines on the ground.
- Common agents including silver iodide, potassium iodide, dry ice, urea, and table salt, but pollen, bacteria (especially *Pseudomonas*), and dust also have surfaces that promote nucleation and precipitation. **Hence statement 2 is correct.**

- These materials encourage cloud droplets to form and fall as rain or snow.
- The process requires existing clouds and can increase rainfall by 5-15 per cent.
- It is used to address water scarcity, reduce hail, or clear fog.



Pros

- **Enhances Rainfall or Snowfall:** It potentially increases precipitation. This benefits agriculture and water reservoirs and might mitigate the impact of damaging weather.
- **Cost-effective:** Compared to other water augmentation strategies, cloud seeding is relatively inexpensive. **Hence statement 3 is correct.**

Cons

- **Uncertain Outcomes:** The effectiveness of cloud seeding is variable and dependent on atmospheric conditions.
- **Environmental Concerns:** There are concerns about the potential toxicity of the chemicals. For example, excessive sodium degrades soil and affects plant growth, while silver is toxic to aquatic life.
- **Weather Interference:** Manipulating weather patterns in one area inadvertently affects weather elsewhere.

PYQ REFERENCE: (2025)

- Q. Artificial way of causing rainfall to reduce air pollution makes use of**
- silver iodide and potassium iodide
 - silver nitrate and potassium iodide
 - silver iodide and potassium nitrate
 - silver nitrate and potassium chloride

Source: <https://www.thehindu.com/news/cities/Delhi/delhi-cloud-seeding-artificial-rain-updates-october-28-2025/article70211599.ece>

124. Particulate Matter (PM) 2.5

124. Consider the following statements:

- Statement I:** Exposure to fine particulate matter (PM_{2.5}) is more harmful to human health than exposure to coarse particulate matter (PM₁₀).
- Statement II:** PM₁₀ particles can penetrate deep into the lungs and even enter the bloodstream.
- Statement III:** PM_{2.5} particles, due to their smaller size, remain suspended longer and can travel long distances.

Which one of the following is correct in respect of the above statements?

- Both Statement II and Statement III are correct and both of them explain Statement I
- Both Statement II and Statement III are correct but only one of them explains Statement I
- Only one of the Statements II and III is correct and that explains Statement I
- Neither Statement II nor Statement III is correct

Answer: (c) Only one of the Statements II and III is correct and that explains Statement I

Explanation:

In NEWS: PM 2.5 not only killed 1.7 million people in India during 2022, but also caused financial losses to the tune of 9.5% of country's GDP: Lancet

Particulate Matter (PM):

- Particulate Matter (PM)** refers to a mixture of solid particles and liquid droplets suspended in the air.
- PM includes **dust, dirt, soot, smoke, and liquid droplets**, originating from both **natural** and **anthropogenic** sources.
- PM is classified mainly into two categories based on size:
 - **PM₁₀** – particles with diameter ≤ 10 micrometres (μm).
 - **PM_{2.5}** – fine particles with diameter ≤ 2.5 micrometres (μm).
 - **PM_{2.5}** - Remains suspended longer; can travel long distances. **Hence statement III is correct.**
 - **PM₁₀** - Settles faster due to larger size
- PM_{2.5} particles are **more hazardous** as they can **penetrate deep into the lungs** and even **enter the bloodstream**. **Hence statement II is incorrect.**
- Major sources of PM include **vehicular emissions, industrial activities, construction dust, biomass burning, thermal power plants, and crop residue burning**.
- Secondary particulate matter** forms in the atmosphere from **chemical reactions** involving gases such as **SO₂, NO_x, NH₃, and VOCs**.
- PM pollution is a key component of **urban smog** and significantly reduces **visibility and air quality**.
- PM_{2.5}** is the **most harmful air pollutant** linked to **respiratory diseases, cardiovascular problems, and premature deaths**.
- According to the **World Health Organization (WHO) 2021 Air Quality Guidelines**:
 - Annual mean limit for **PM_{2.5}** is **5 $\mu\text{g}/\text{m}^3$** .
 - Annual mean limit for **PM₁₀** is **15 $\mu\text{g}/\text{m}^3$** .
- As per India's **National Ambient Air Quality Standards (NAAQS)** (CPCB, 2009):
 - **PM_{2.5}**: 40 $\mu\text{g}/\text{m}^3$ (annual average)
 - **PM₁₀**: 60 $\mu\text{g}/\text{m}^3$ (annual average).
- Delhi, Kanpur, Lucknow, and Patna** are among the cities with the **highest PM_{2.5} concentrations** in India.
- PM is monitored under the **National Air Quality Monitoring Programme (NAMP)** and **Continuous Ambient Air Quality Monitoring Stations (CAAQMS)**.
- The **Air Quality Index (AQI)** in India measures air pollutants including **PM₁₀ and PM_{2.5}**, along with **NO₂, SO₂, CO, O₃, NH₃, and Pb**.
- High PM concentration leads to **acid rain, haze formation, and climate forcing** due to absorption and scattering of sunlight.
- The **National Clean Air Programme (NCAP)** (launched in 2019) aims to **reduce PM_{2.5} and PM₁₀ levels by 40% by 2026** (from 2017 levels).
- Odd-Even scheme, smog towers, and anti-smog guns** are short-term interventions to control PM pollution in urban areas.
- Biofuel promotion, electric mobility, crop residue management, and clean cooking fuel** (Ujjwala Yojana) help reduce PM emissions.
- PM also contributes to **black carbon** formation, which accelerates **glacial melting** in the Himalayas.
- Vehicular emissions, especially from diesel engines**, are a major source of **PM_{2.5} and black carbon** in Indian cities.
- Central Pollution Control Board (CPCB)** and **State Pollution Control Boards (SPCBs)** regulate PM levels under the **Air (Prevention and Control of Pollution) Act, 1981**.

PYQ REFERENCE: (2022)

Q. In the context of WHO Air Quality Guidelines, consider the following statements:

- The 24-hour mean of PM_{2.5} should not exceed 15 $\mu\text{g}/\text{m}^3$ and annual mean of PM_{2.5} should not exceed 5 $\mu\text{g}/\text{m}^3$.
- In a year, the highest levels of ozone pollution occur during the periods of inclement weather.

3. PM10 can penetrate the lung barrier and enter the bloodstream.
 4. Excessive ozone in the air can trigger asthma.

Which of the statements given above are correct?

- (a) 1, 3 and 4
(b) 1 and 4 only
 (c) 2, 3 and 4
 (d) 1 and 2 only

Source: <https://www.downtoearth.org.in/health/pm-25-not-only-killed-17-million-people-in-india-during-2022-but-also-caused-financial-losses-to-the-tune-of-95-of-countrys-gdp-lancet>

125. Mount Fuji

125. Consider the following statements regarding Mount Fuji:

1. It is a stratovolcano that lies at the junction of three tectonic plates, the Amurian Plate, Okhotsk Plate, and Philippine Sea Plate.
2. It is a symbol of Japan and a UNESCO World Heritage Site (2013) under the category "Cultural Site."
3. Mount Fuji is classified as an active volcano because of its frequent eruptions in the last decade.

How many of the above statements are correct?

- (a) Only one
 (b) Only two
 (c) All three
 (d) None

Answer: (b) Only two

Explanation:

In NEWS: The peak of Japan's Mount Fuji was capped with snow for the first time this winter on October 23, reaching the milestone 21 days later than the average since records began in 1894, the country's meteorological agency said.



Mount Fuji:

- **Mount Fuji (Fujisan)** is an **active stratovolcano** located on **Honshu Island, Japan**.
- It is situated about **100 km southwest of Tokyo** and is **Japan's highest peak at 3,776 metres (12,389 ft)**.

- Mount Fuji lies at the junction of **three tectonic plates** — the **Amurian Plate, Okhotsk Plate, and Philippine Sea Plate**. **Hence statement 1 is correct.**

- It is classified as a **composite volcano**, formed by **alternating layers of lava flows, volcanic ash, and rocks**.

- The mountain has erupted several times; the **last recorded eruption occurred in 1707 (Hōei Eruption)** during the Edo period. **Hence statement 3 is incorrect.**

- The 1707 eruption deposited ash as far as **Edo (modern-day Tokyo)**.

- Mount Fuji is part of the **Pacific Ring of Fire**, a zone of frequent earthquakes and volcanic activity.

- It is a **symbol of Japan** and a **UNESCO World Heritage Site (2013)** under the category "**Cultural Site**." **Hence statement 2 is correct.**

- The **Fuji Five Lakes region** lies around its northern base — **Yamanaka, Kawaguchi, Saiko, Shoji, and Motosu**.

- Despite being **dormant for centuries**, Mount Fuji is still classified as an **active volcano** with potential for future eruptions.

PYQ REFERENCE: (2018)

Q. Consider the following statements:

1. The Barren Island volcano is an active volcano located in the Indian territory.
2. Barren Island lies about 140 km east of Great Nicobar.
3. The last time the Barren Island volcano erupted was in 1991 and it has remained inactive since then.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 and 3
 (c) 3 only
 (d) 1 and 3

Source: <https://economictimes.indiatimes.com/nri/visit/japans-mount-fuji-sees-snow-for-first-time-this-winter-21-days-later-than-usual/articleshow/124759147.cms?from=mdr>

HISTORY - ART AND CULTURE

126. Freedom Fighters

126. Consider the following pairs:

1. Tiruppur Kumaran - Founder of the Indian Sociologist journal
2. Subramaniya Siva - Detained under sedition charges
3. Shyamji Krishna Varma - Founded the Desabandu Youth Association

Which of the pairs given above is/are correctly matched?

- (a) 1 only
 (b) 2 only
 (c) 1 and 3
(d) 2 and 3

Answer: (b) 2 only

Explanation:

In NEWS: PM Pays Tribute to Tiruppur Kumaran and Subramaniya Siva on their Remembrance Day. PM Pays Tribute to Shyamji Krishna Varma on His Birth Anniversary.

Tiruppur Kumaran (1904–1932)

- A passionate freedom fighter from Tamil Nadu.
- Founder of the Desabandu Youth Association, which mobilized youth for the nationalist cause. **Hence pair 1 is incorrect.**
- Died while carrying the Indian national flag during a protest march against British rule — despite being beaten by police, he refused to let the flag touch the ground.
- Remembered as "Kodi Kaatha Kumaran" (Kumaran who protected the flag).

Subramaniya Siva (1884–1925)

- Tamil revolutionary and close associate of V.O. Chidambaram Pillai.
- Actively spread nationalist ideas through public speeches and writings in Tamil.
- Arrested for sedition and imprisoned; contracted leprosy due to harsh prison conditions but continued his work. **Hence pair 2 is correct.**
- His efforts inspired nationalist awakening in southern India.

Shyamji Krishna Varma (1857–1930)

- Revolutionary and nationalist leader based in London.
- Founded the India House and The Indian Sociologist journal to promote Indian independence abroad. **Hence pair 3 is incorrect.**
- Provided support and inspiration to young revolutionaries like Veer Savarkar and Madam Cama.
- Advocated for Indian self-rule and exposed British colonial injustices internationally.

PYQ REFERENCE: (2019)
Q. Consider the following pairs:

Movement/Organization	Leader
1. All India Anti-Untouchability League	- Mahatma Gandhi
2. All India Kisan Sabha	- Swami Sahajanand Saraswati
3. Self-Respect Movement	- E.V. Ramaswami

- | | |
|---|------------------------------|
| 1. All India Anti-Untouchability League | - Mahatma Gandhi |
| 2. All India Kisan Sabha | - Swami Sahajanand Saraswati |
| 3. Self-Respect Movement | - E.V. Ramaswami |

Which of the pairs given above is/are correctly matched?

- (a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2174803>

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2174693>

127. Shri Lal Bahadur Shastri
127. Consider the following statements with reference to Shri Lal Bahadur Shastri:

1. He signed the Tashkent Agreement (1966) with Pakistani President Ayub Khan.
2. He gave the slogan "Jai Jawan, Jai Kisan" during the 1965 Indo-Pak War.
3. He was posthumously awarded the Bharat Ratna.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3
Explanation:

In NEWS: Prime Minister Pays Tribute to Shri Lal Bahadur Shastri Ji on His Birth Anniversary

Major Contributions of Lal Bahadur Shastri:
Prime Minister of India (1964–1966)

- Took charge after Jawaharlal Nehru's death in 1964.
- Led India during a critical period marked by economic challenges and external threats.

Gave the Slogan "Jai Jawan, Jai Kisan" Hence statement 2 is correct.

- Coined the iconic phrase during the 1965 Indo-Pak War to:
- Motivate soldiers (Jawan) defending the country.
- Encourage farmers (Kisan) to boost food production.
- The slogan became a symbol of national unity and self-reliance.

Leadership During the 1965 Indo-Pak War

- Led the country with firm resolve during the war with Pakistan.

- Displayed strong military and diplomatic leadership.

- **Signed the Tashkent Agreement (1966)** with Pakistani President Ayub Khan, brokered by the USSR, to end the war. **Hence statement 1 is correct.**

Green Revolution Initiation

- Laid the foundation for the Green Revolution to tackle food shortages.
- Promoted the use of high-yield variety seeds, fertilizers, and modern farming techniques.
- Strengthened India's push toward food self-sufficiency.

Emphasis on Self-Reliance

- Promoted indigenous industry and economic self-sufficiency.
- Encouraged citizens to voluntarily observe fasts to reduce food demand during shortages, setting a personal example.

Roles Before Prime Ministership

Held important portfolios like:

- Minister of Railways (resigned after a train accident, taking moral responsibility)
- Minister of Home Affairs

Death and Legacy

- Passed away on 11 January 1966 in Tashkent, Uzbekistan, under mysterious circumstances.
- **Posthumously awarded the Bharat Ratna**, India's highest civilian award. **Hence statement 3 is correct.**
- Remembered as a symbol of honesty, courage, and patriotism.

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2173982>

128. Visvesvaraya, Muthulakshmi and Mahalanobis
128. Consider the following pairs:

1. M. Visvesvaraya : Founder of the Indian Statistical Institute (ISI)
2. Dr. Muthulakshmi Reddy: First woman legislator in Madras Legislative Council, 1927 in India.
3. P.C. Mahalanobis : Renowned civil engineer and served as Diwan of Mysore

Which of the above pairs is/are correctly matched?

- (a) 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 2 only
Explanation:

In NEWS: How Visvesvaraya, Muthulakshmi and Mahalanobis shaped modern India

Sir M. Visvesvaraya (1860–1962) – Engineer & Nation-Builder
Contributions:

- Renowned **civil engineer and statesman**; served as **Diwan of Mysore** (1912–1918). **Hence pair 1 is incorrect.**
- Designed and implemented **flood control systems**, including the **Krishna Raja Sagara (KRS) dam** in Karnataka.
- Promoted **industrialization in Mysore**, setting up factories, hydroelectric projects, and modern infrastructure.
- Advocated **planning and scientific approach** to economic development; emphasized **education and irrigation** for rural prosperity.

Unique Aspect:

- **Blend of engineering and governance** — applied technical expertise to transform a state's economy and infrastructure, earning him the title "**Bharat Ratna**" (1955).

Dr. Muthulakshmi Reddy (1886–1968) – Social Reformer & Pioneer

Contributions:

- First **woman legislator in India** (Madras Legislative Council, 1927). **Hence pair 2 is correct.**
- Advocated **women's rights, child welfare, and abolition of the Devadasi system.**
- Founded the **Avvai Home for Destitute Women and Children** and promoted **healthcare and education for women.**
- Instrumental in establishing **Tamil Nadu's first maternity and child welfare services.**

Unique Aspect:

- **Pioneer in women's empowerment and social reform**, breaking gender barriers in politics, medicine, and society.

P.C. Mahalanobis (1893–1972) – Statistician & Economic Planner

Contributions:

- Founder of the **Indian Statistical Institute (ISI)** in 1931. **Hence pair 3 is incorrect.**
- Developed the **Mahalanobis Distance**, a key concept in multivariate statistics.
- Played a central role in **India's Second Five-Year Plan (1956)**; emphasized **industrialization and heavy industries.**
- Introduced **statistical methods** for economic planning and policy-making.

Unique Aspect:

- **Merged science with economic planning** — applied statistical analysis to guide India's industrial growth and national development.

PYQ REFERENCE: (2017)

Q. Consider the following pairs:

1. Radhakanta Deb — First President of the British Indian Association
2. Gazulu Lakshmi Narasu Chetty — Founder of the Madras Mahajana Sabha
3. Surendranath Banerjee — Founder of the Indian Association

Which of the above pairs is/are correctly matched?

- (a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Source: [https://epaper.thehindu.com/ccidist-
ws/th/th_international/issues/150453/OPS/GU5EUFL0G.1+G45EVKS
8V.1.html](https://epaper.thehindu.com/ccidist-
ws/th/th_international/issues/150453/OPS/GU5EUFL0G.1+G45EVKS
8V.1.html)

129. Sardar Vallabhbhai Patel

129. Which of the following statements about Sardar Vallabhbhai Patel is/are correct?

1. He led the Bardoli Satyagraha in 1928 and earned the title "Sardar."
2. He was the first Deputy Prime Minister and Home Minister of independent India.
3. He played a key role in the integration of princely states into the Indian Union.
4. The Statue of Unity in Gujarat commemorates his contributions.

Select the correct answer:

- (a) 1 and 3 only
(b) 2 and 4 only
(c) 1, 2, and 3 only
(d) 1, 2, 3, and 4

Answer: (d) 1, 2, 3, and 4

Explanation:

In NEWS: Prime Minister will lead parade on 150th birth anniversary of Sardar Vallabhbhai Patel

Statement 1:

He led the Bardoli Satyagraha in 1928 and earned the title "Sardar."

- The **Bardoli Satyagraha** was a **peasant movement** in Gujarat against excessive taxation by the British government. Sardar Vallabhbhai Patel was the **leader of this movement.**
- His **success in organizing the peasants and forcing the British to roll back taxes** earned him the title "**Sardar**" (leader/chief).

Statement 2:

He was the first Deputy Prime Minister and Home Minister of independent India

- After independence in 1947, **Jawaharlal Nehru** became **Prime Minister**, and **Sardar Patel** became the **first Deputy PM and Home Minister.**
- He was responsible for **administrative consolidation** and the **integration of princely states.**

Statement 3:

He played a key role in the integration of princely states into the Indian Union.

- At the time of independence, India had **over 560 princely states** that were technically independent.
- **Patel, with V.P. Menon, negotiated with the rulers**, using a combination of diplomacy and firmness to **ensure accession to India.**
- Famous cases: **Hyderabad, Junagadh, Kashmir** (instruments of accession).
- His efforts prevented the **fragmentation of India** and earned him the title "**Iron Man of India.**"

Statement 4:

The Statue of Unity in Gujarat commemorates his contributions.

- The **Statue of Unity** is a **182-meter tall statue of Sardar Patel**, located at **Kevadia, Gujarat.**
- Inaugurated in **2018**, it is the **world's tallest statue.**
- Symbolizes **national unity** and his contributions to **integrating the princely states.**

Bardoli Satyagraha → "Sardar" → 1928

Deputy PM + Home Minister → first after independence

Integration of princely states → Iron Man of India

Statue of Unity → Gujarat, 2018, world's tallest statue

PYQ REFERENCE:

Q. The Statue of Unity, recently seen in news, commemorates which personality? (2020)

- (a) Jawaharlal Nehru
(b) Sardar Vallabhbhai Patel
(c) Subhas Chandra Bose
(d) Bhagat Singh

Source: [https://www.thehindu.com/news/national/pm-modi-to-lead-
parade-on-150th-birth-anniversary-of-sardar-vallabhbhai-
patel/article70197971.ece](https://www.thehindu.com/news/national/pm-modi-to-lead-
parade-on-150th-birth-anniversary-of-sardar-vallabhbhai-
patel/article70197971.ece)

130. Classical Languages of India

130. With reference to the "Classical Languages of India", consider the following statements:

1. To qualify as a Classical Language, it must possess recorded history of at least 1,000 years and a continuous literary tradition.
2. Classical Languages may show discontinuity from their modern forms.
3. The criteria for Classical Language recognition are laid down by the Ministry of Education.
4. Classical Language status entails creation of dedicated Centres of Excellence under the Central Institute of Indian Languages (CIIL).

Which of the above statements is/are correct?

- (a) 1 and 2 only
(b) 2 and 4 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Answer: (b) 2 and 4 only

Explanation:

In NEWS: Preserving India's Linguistic Heritage

Classical Languages in India:

- The Government of India conferred the 'Classical Language' status to Marathi, Pali, Prakrit, Assamese, and Bengali languages on October 03, 2024
- As of October 2025, a total of 11 Indian languages hold the status of Classical Language.
- Six Indian languages - Tamil, Sanskrit, Kannada, Telugu, Malayalam, and Odia were earlier accorded the status of classical languages between 2004 to 2024.

Classical Languages of India				
Pali 2024	Prakrit 2024	Bengali 2024	Marathi 2024	Assamese 2024
Odia 2014	Malayalam 2013	Kannada 2008	Telugu 2008	Sanskrit 2005
		Tamil 2004		

The criteria for a language to be classified as a Classical Language include the following:

- High antiquity of its early texts or recorded history, spanning a period of 1,500-2,000 years. **Hence statement 1 is incorrect.**
- A body of ancient literature or texts that is considered heritage by generations of speakers.
- Knowledge texts, especially prose texts, in addition to poetry, epigraphical and inscriptional evidence.
- The Classical Language and its literature may be distinct from its current form or show discontinuity with later forms derived from the original. **Hence statement 2 is correct.**

The status of a classical language entails the establishment of dedicated Centres of Excellence for its study and promotion. These centers are often set up under the Central Institute of Indian Languages (CIIL) to support research, documentation, and the digitization of manuscripts. **Hence statement 4 is correct.**

The criteria for Classical Language recognition are laid down by the Ministry of Culture, in consultation with linguistic and historical experts, and not the Ministry of Education. **Hence Statement 3 is incorrect**

PYQ REFERENCE:

Consider the following languages: (2016)

1. Gujarati
2. Kannada
3. Telugu

Which of the above has/have been declared as a 'Classical Language' by the Government of India?

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only**
- (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2182753>

131. Dogri language

131. With reference to Indian Cultural history, Which among the following statements are correct regarding the Dogri language?

1. Dogri is a Western Pahari Indo-Aryan language spoken mainly in the Jammu region of Jammu & Kashmir and neighbouring areas.
2. Dogri is one of the 22 scheduled languages of India which is included in the Eighth Schedule of the Constitution through the 71st Amendment Act.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

In NEWS: Is the Dogri language losing resonance in India?

Dogri language:

- Dogri is a Western Pahari Indo-Aryan language spoken mainly in the Jammu region of Jammu & Kashmir and neighbouring areas. **Hence statement 1 is correct.**

● Constitutional status:

- Included in the **Eighth Schedule** of the Constitution in 2003 via 92nd Amendment Act. Hence, one of the **22 scheduled languages of India**. **Hence statement 2 is incorrect.**

Cultural & Linguistic Significance

- Represents the **identity of the Dogra community**.
- Rich **oral literature** — folk songs, bhajans, riddles, proverbs, and heroic ballads.
- Important works by poets like **Padma Sachdev, Dinanath Nadim, and Narayan Dutt Shastri**.
- Serves as a bridge between **northern Hindi dialects and Pahari languages**.

PYQ REFERENCE: (2024)

Q. The Constitution (71st Amendment) Act, 1992 amends the Eighth Schedule to the Constitution to include which of the following languages?

1. Konkani
2. Manipuri
3. Nepali
4. Maithilis

Select the correct answer using the code given below:

- (a) 1, 2 and 3**
- (b) 1, 2 and 4
- (c) 1,3 and 4
- (d) 2,3 and 4

Source:

<https://www.thehindu.com/news/national/jammu-and-kashmir/is-the-dogri-language-losing-resonance-in-india/article70209891.ece>

132. Chhath Puja

132. With reference to the cultural history of India, consider the following statements:

1. Chhath Puja is the only Hindu festival that worships both the rising and setting Sun, symbolising life balance and gratitude.
2. Chhath Puja was recently inscribed on the UNESCO List of Intangible Cultural Heritage of Humanity.

Which of the following statements given above is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

In NEWS: Chhath Puja and politics: never the twain shall meet, say devotees

Chhath Puja:

- Chhath Puja is an ancient Vedic festival dedicated to **Lord Surya (Sun God)** and **Chhathi Maiya**, associated with the dawn goddess **Usha**.
- It is mainly celebrated in **Bihar, Jharkhand, Eastern Uttar Pradesh, and Nepal's Terai region**.
- The word '**Chhath**' means '**sixth**', referring to the sixth day after **Diwali**, during **Shukla Paksha of Kartika month (October–November)**.
- The festival spans **four days** —
 1. **Nahay Khay** – Holy bathing and preparing sattvic food.
 2. **Kharna** – Day-long fasting, followed by offering kheer and fruits to the Moon.
 3. **Sandhya Arghya** – Offering prayers to the **setting Sun**.
 4. **Usha Arghya** – Offering prayers to the **rising Sun**.
- Devotees perform **ritual fasting, standing in water**, and offering **arghya (water and fruits)** to the Sun.
- It is the **only Hindu festival** that worships both the **rising and setting Sun**, symbolising **life balance and gratitude**. **Hence statement 1 is correct.**
- The rituals emphasize **purity, discipline, and environmental consciousness** — using natural offerings and clean water bodies.
- Offerings include **thekua, sugarcane, rice, coconuts, and fruits**.
- The festival has **references in the Rig Veda** and is linked to **Karna**, the son of **Surya**, from the **Mahabharata**.
- Recognised as an important **folk and environmental festival**, promoting **community harmony and ecological respect**.

Note: Chhath Puja is *not yet inscribed* on the **UNESCO List of Intangible Cultural Heritage of Humanity** (as of 2025). **Hence statement 2 is incorrect.**

PYQ REFERENCE: (2024)

Q. Which one of the following was the latest inclusion in the Intangible Cultural Heritage List of UNESCO?

- (a) Chhau dance
 (b) Durga puja
 (c) **Garba dance**
 (d) Kumbh mela

Source: <https://www.thehindu.com/news/cities/Delhi/chhath-puja/article70211168.ece>

133. Nobel Prize in Literature 2025

133. Who of the following is the author of the books "War & War" and "The Melancholy of Resistance"?

- (a) László Krasznahorkai
 (b) Imre Kertész
 (c) Péter Nádas
 (d) György Konrád

Answer: (a) László Krasznahorkai

Explanation:

In NEWS: Nobel Prize in Literature 2025

- The 2025 Nobel Prize in Literature was awarded to the Hungarian novelist **László Krasznahorkai** (born 1954) "for his compelling and

visionary oeuvre that, in the midst of apocalyptic terror, reaffirms the power of art."

- He is the second Hungarian Nobel laureate in Literature after Imre Kertész in 2002.

His notable works:

- Satantango
- The Melancholy of Resistance
- War & War
- A Mountain to the North, a Lake to the South, Paths to the West, a River to the East
- Seiobo There Below
- Spadework for a Palace
- Baron Wenckheim's Homecoming
- Herscht 07769

Hence option (a) is correct.

PYQ REFERENCE: (2024)

Q. Who of the following is the author of the books "The India Way" and "Why Bharat Matters"?

- (a) Bhupender Yadav
 (b) Nalin Mehta
 (c) Shashi Tharoor
 (d) **Subrahmanyam Jaishankar**

Source: <https://indianexpress.com/article/books-and-literature/nobel-prize-in-literature-2025-winners-live-updates-10295094/>

134. INTERNATIONAL DAY OF NON-VIOLENCE

134. Consider the following statements:

Statement-I : October 2 is globally declared as the International Day of Non-Violence by the United Nations.

Statement-II: It was in 1920 that the Non - cooperation movement was launched on the same day.

Which one of the following is correct in respect of the above statements?

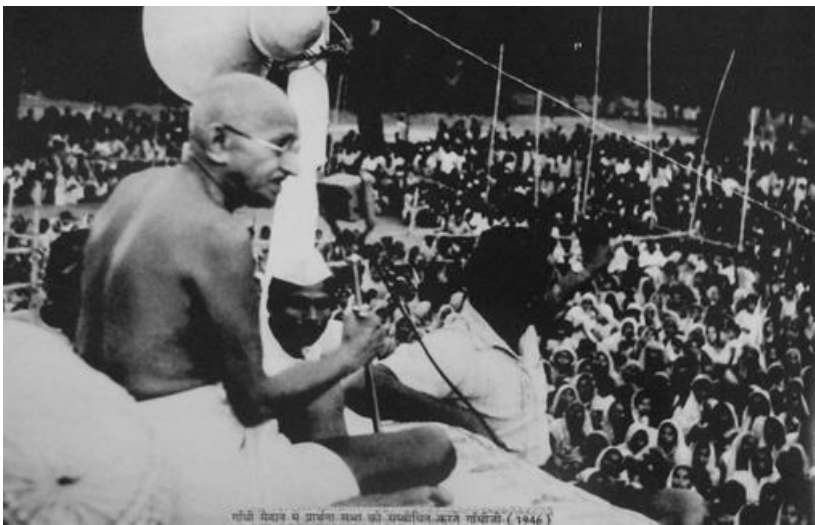
- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
 (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
 (c) Statement-I is correct but Statement-II is incorrect.
 (d) Statement-I is incorrect but Statement-II is correct.

Answer: (c) Statement-I is correct but Statement-II is incorrect.

Explanation:

In NEWS:

- **October 2 is celebrated as Gandhi Jayanti** and globally as **the International Day of Non-Violence**, as declared by the United Nations – a dual tribute that reflects both national pride and global respect for the Mahatma. **Hence statement 1 is correct.**
- The **UN General Assembly adopted a resolution in June 2007** affirming non-violence as a universal principle and promoting a global culture of peace and tolerance.
- The spirit of Gandhi Jayanti and the International Day of Non-Violence is kept alive globally, with **commemorations held in countries** such as **Belgium, USA, Spain, Serbia, Switzerland, Thailand, Kazakhstan and the Netherlands**.



Gandhi's Contribution

"Non-violence is the greatest force at the disposal of mankind. It is mightier than the mightiest weapon of destruction devised by the ingenuity of man," Gandhi wrote in Young India in 1920

1. Political Contribution

- **Non-Violent Mass Movements:** Introduced and popularized *Satyagraha* (truth-force) and *Ahimsa* (non-violence) as tools of resistance.
- **Champaran (1917):** First experiment of Satyagraha against indigo planters' exploitation.
- **Kheda Satyagraha (1918):** Supported peasants against oppressive revenue demands.
- **Ahmedabad Mill Strike (1918):** Advocated for workers' rights, mediated between labor and capital.
- **Non-Cooperation Movement (1920-22):** Launched by Mahatma Gandhi on **1st August 1920** which mobilized millions against colonial institutions (courts, schools, titles). **Hence statement 2 is incorrect.**
- **Civil Disobedience (1930-34):** *Dandi March* symbolized defiance of British monopoly on salt.
- **Quit India Movement (1942):** "Do or Die" call became the final push for independence.

2. Social Contribution

- **Eradication of Untouchability:** Started *Harijan Sevak Sangh* (1932), promoted temple entry and social equality.
- **Women's Participation:** Encouraged women like Sarojini Naidu, Kasturba Gandhi, and Aruna Asaf Ali to join the struggle.
- **Village Upliftment (Gram Swaraj):** Advocated self-reliant villages, use of *khadi*, cottage industries, and local governance.
- **Promotion of Education:** *Nai Talim* (Basic Education) emphasized craft-based, value-oriented learning.

3. Economic Contribution

- **Swadeshi & Self-Reliance:** Promoted khadi, boycott of foreign goods, revival of village industries.
- **Decentralized Economy:** Opposed industrial exploitation, supported small-scale, rural-based production.

4. Religious & Ethical Contribution

- **Unity of Religions:** Advocated Hindu-Muslim unity, harmony among all faiths.
- **Ethics in Politics:** Introduced moral principles into political life.
- **Spiritualised Nationalism:** His fight against colonialism was also a moral and spiritual battle.

Relevance in Today's India - Government Initiatives Linked to Gandhian Ideas

1. **Swachh Bharat Mission** - Launched in 2014, achieved Open Defecation Free status in 2019; millions of toilets built.
2. **Self-Help Groups under DAY-NRLM** - Empowering women, large-scale mobilization and bank linkages.
3. **SVAMITVA Scheme** - Drone-based land mapping and issuance of property cards for village self-reliance.
4. **Khadi and Village Industries (KVIC)** - Growth in production, sales and employment aligned with Gandhian swadeshi ideals.

5. **PM Janjatiya Unnat Gram Abhiyan (PM JUGA/DAJGUA)** - New programme for tribal welfare launched in 2024.
6. **MGNREGA** - Reinforces rural employment and dignity of labour.

PYQ REFERENCE: (2025)

Q. Consider the following subjects with regard to Non-Cooperation Programme:

- I. Boycott of law-courts and foreign cloth
- II. Observance of strict non-violence
- III. Retention of titles and honours without using them in public
- IV. Establishment of Panchayats for settling disputes

How many of the above were parts of the Non-Cooperation Programme?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All the four

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2173476>

135. Assam's GI farm basket

135. Joha Rice, Kaji Nemu and Tezpur Litchi are few GI tagged products from which of the following states?

- (a) Bihar
- (b) Manipur
- (c) Kerala
- (d) Assam

Answer: (d) Assam

Explanation:

In NEWS: Assam's GI farm basket gains with Joha Rice and Boka Saul rice and Kaji Nemu products and Tezpur Litchi see ~6-11% savings, lifting demand and farm incomes

Joha Rice:

- **Origin:** Indigenous to Assam.
- **Features:** Naturally fragrant, soft texture, and excellent taste. Grown without synthetic chemicals in traditional methods.
- **Uses:** Preferred in traditional Assamese dishes like pulao and kheer.

Kaji Nemu (Assam Lemon):

- **Citrus fruit (lemon) variety native to Assam.**
- **Features:** Elongated, smooth-skinned, juicy, less acidic, and highly aromatic.
- **Medicinal Use:** Rich in vitamin C and known for digestive benefits.
- **Culinary Role:** Widely used in Assamese cuisine for garnishing and pickles.

Tezpur Litchi:

- **Type:** Litchi fruit cultivated around Tezpur town, Assam.
- **Features:** Known for its sweet taste, juicy pulp, and small seed — indicating high pulp-to-seed ratio.
- **Climate Suitability:** Grown in the alluvial soil and humid subtropical climate of Tezpur.

All three products are from the state of Assam. **Hence option (d) is correct.**



PYQ REFERENCE: (2015)

Q. Which of the following has/have been accorded 'Geographical Indication' status?

1. Banaras Brocades and Sarees
2. Rajasthani Daal-Bati-Churma
3. Tirupathi Laddu

Select the correct answer using the code given below:

- (a) 1 only
 (b) 2 and 3 only
(c) 1 and 3 only
 (d) 1, 2 and 3

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2172651>

PLACES IN INEWS

136. Rafah crossing

136. The Rafah Border Crossing, recently in news, connects which of the following regions?

- (a) Israel and Lebanon
 (b) Gaza Strip and Egypt
 (c) West Bank and Jordan
 (d) Syria and Turkey

Answer: (b) Gaza Strip and Egypt

Explanation:

In NEWS: Aid enters Gaza, Israel to open Rafah crossing

Rafah crossing:

- The **Rafah Border Crossing** is the **sole crossing point between the Gaza Strip and Egypt**. **Hence option (b) is correct.**
- Situated at the **southern tip of Gaza**, it connects **Rafah city in Gaza with North Sinai in Egypt**.
- It is **not connected to Israel**—unlike other Gaza border crossings.



Strategic Importance

- It is **Gaza's only gateway to the outside world that is not controlled by Israel**.
- Acts as the **primary route for humanitarian aid, medical evacuation, and people's movement** in and out of Gaza.
- Egypt controls entry and exit; Israel has **no direct control**, but it coordinates with Egypt on security aspects.

Political & Security Context

- Since **Hamas took control of Gaza in 2007**, **Israel and Egypt** have imposed **tight border restrictions** citing security threats.
- The Rafah crossing is often **opened temporarily** for humanitarian reasons or under international mediation.
- It frequently becomes a **flashpoint during conflicts**, especially when humanitarian aid or refugees try to pass through.

- Managed by **Egyptian authorities** in coordination with the **Palestinian Authority (PA)** and sometimes **Hamas** (de facto in Gaza).

Recent Developments (2023–2025)

- During the **Israel–Hamas conflict (2023–25)**, Rafah crossing became the **key entry point for humanitarian aid** from **Egypt to Gaza**, especially from the city of **El-Arish**.
- **Aid convoys, ambulances, and fuel trucks** have passed through under **UN and Egyptian supervision**.
- **Israel's military operations near Rafah (2024–25)** raised concerns about civilian casualties and potential refugee outflow into Egypt.
- Egypt has maintained a **controlled humanitarian access**, refusing large-scale refugee entry to protect its **Sinai security and sovereignty concerns**.

PYQ REFERENCE: (2008)

Q. Yom Kippur War was fought between which sides/ countries?

- (a) Turkey and Greece
 (b) Serbs and Croats
(c) Israel, and Arab countries led by Egypt and Syria
 (d) Iran and Iraq

Source:

<https://www.thehindu.com/news/international/israel-hamas-ceasefire-gaza-rafah-crossing-opening/article70165783.ece>

137. Campi Flegrei volcano

137. The Campi Flegrei volcano, seen in the news recently, is located in which one of the following countries?

- (a) Japan
 (b) Greece
 (c) Italy
 (d) Argentina

Answer: (c) Italy

Explanation:

In NEWS: AI reveals hidden 'ring fault' that is unleashing earthquakes at Italy's Campi Flegrei volcano

- A new AI-based approach has revealed a "ring fault" structure beneath the Campi Flegrei volcano.
- Between 2022 and 2025, more than 54,000 earthquakes were mapped using this AI method.

Campi Flegrei volcano:

- Campi Flegrei is a large volcanic caldera **located west of Naples, Italy**. **Hence option (c) is correct.**
- Its name means "Burning Fields" in Italian, referencing the area's frequent geothermal activity.
- It is one of the most dangerous supervolcanoes in the world due to its size, explosive history, and proximity to a densely populated region.
- **The caldera last erupted in 1538, forming a small cone called Monte Nuovo.**
- Campi Flegrei has experienced periodic unrest, including ground uplift, gas emissions, and swarms of earthquakes.
- This phenomenon, known as **bradyseism**, involves slow, vertical ground movement due to changes in pressure underground.
- In recent years, the area has seen a significant increase in seismic activity and ground deformation.
- A new AI-based study has discovered a hidden ring fault beneath the volcano that may explain the current earthquake patterns.
- The presence of this fault suggests localized stress release, but there is no clear evidence of magma rising toward the surface.
- Although there is no imminent eruption, scientists are closely monitoring the area to assess potential volcanic and seismic hazards.

Source: <https://www.livescience.com/planet-earth/volcanos/ai-reveals-hidden-ring-fault-that-is-unleashing-earthquakes-at-italys-campi-flegrei-volcano>

138. Durand Line

138. Which one of the following statements best reflects the issue with the Durand Line, sometimes mentioned in the news?

- (a) It is a disputed land corridor between India and China claimed by both countries in the Ladakh region.
- (b) It is an old Silk Route boundary, now used as a trade corridor between Iran and Pakistan.
- (c) It is the operational boundary between Afghanistan and Pakistan, whose legal status remains unrecognized by Afghanistan.
- (d) It is a maritime boundary between Pakistan and the UAE, contested due to offshore energy resources.

Answer: (c) It is the operational boundary between Afghanistan and Pakistan, whose legal status remains unrecognized by Afghanistan.

Explanation:

In NEWS: Afghanistan and Pakistan face escalating border clashes. Deadly exchanges have erupted along the Durand Line, a border Afghanistan disputes.

Durand Line:

- The Durand Line is a 2,640-kilometre (1,640-mile) long international border between Afghanistan and Pakistan.
- Established in: 1893
- Signed between:
 - Sir Mortimer Durand (British diplomat, representing British India)
 - Amir Abdur Rahman Khan (Emir of Afghanistan)
- Purpose: To demarcate the spheres of influence between British India and Afghanistan.
- The line runs through rugged, mountainous terrain, cutting across the Pashtun tribal areas and the Baloch region.
- It passes through provinces such as:
 - Khyber Pakhtunkhwa (Pakistan)
 - Balochistan (Pakistan)
 - Eastern Afghanistan

Controversy and Disputes:

- Pakistan regards the Durand Line as its official international border with Afghanistan.
- Afghanistan has never officially accepted the Durand Line as an international border post-1947.
- Successive Afghan governments argue that the agreement was signed under duress.
- It divides ethnic Pashtuns and tribal communities, which Afghanistan considers a colonial imposition.

Hence option (c) is correct.

PYQ REFERENCE: (2022)

Q. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?

- (a) It is generally believed that they are artificial islands made by a country around South China Sea.
- (b) China and Japan engage in maritime disputes over these islands in East China Sea.
- (c) A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
- (d) Though International Court of Justice declared them as no man's land, some South-East Asian countries claim them.

Source:

<https://economictimes.indiatimes.com/news/defence/pakistan-and-afghanistan-clash-along-durand-line-whats-unfolding-between-indias-neighbours/articleshow/124503846.cms?from=mdr>

139. Conflict areas in South China Sea

139. Consider the following regions:

1. Paracel islands
2. Spratly islands
3. Senkaku islands
4. Pratas Islands

How many of the above regions are a part of the South China Sea?

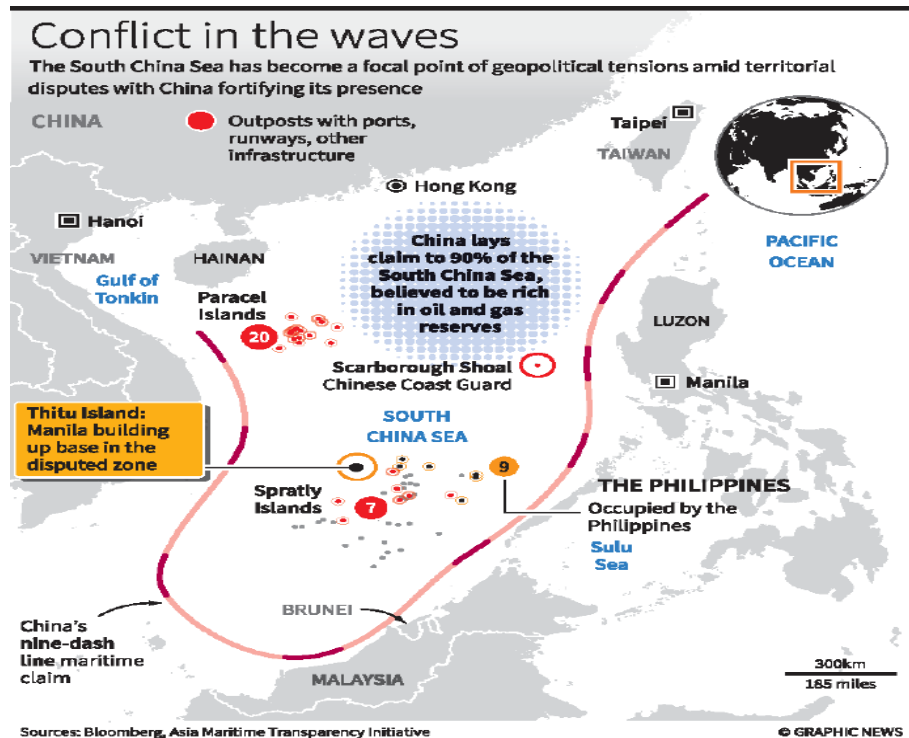
- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Answer: (c) Only three

Explanation:

In NEWS: Philippines, China trade blames for vessels colliding in South China Sea as tensions soar

- In the last few years, maritime East Asia has become an arena for intensified power politics. The East China Sea borders China, Taiwan, Japan, and South Korea.
- China asserts that the Senkaku/ Diaoyu islands, located in the East China Sea and under Japanese control, belong to Beijing. **Hence 3 is incorrect.**
- There have been multiple crises over these islands in the past. The South China Sea lies between China, Taiwan and five Southeast Asian countries — Vietnam, Malaysia, Brunei, the Philippines, and Indonesia — and has emerged as one of the most important flashpoints in the Indo-Pacific.
- China has been aggressively pushing its claims in the South China Sea.
- China views the East and South China Seas through the prism of sovereignty, territorial integrity, and national security. China's Defence White paper, issued in 2019, declares, "South China Sea islands and Diaoyu Islands are inalienable parts of the Chinese territory."
- In responding to the criticism regarding China's activities, it asserts that "China exercises its national sovereignty to build infrastructure and deploy necessary defensive capabilities on the islands and reefs in the South China Sea, and to conduct patrols in the waters of Diaoyu Islands in the East China Sea."
- What China perceives as its defensive actions are considered offensive and provocative by the regional countries surrounding the East and South China Seas.



Hence option (c) is correct.

PYQ REFERENCE:

Q. Consider the following countries:

1. Finland
2. Germany
3. Norway
4. Russia

How many of the above countries have a border with the North Sea?

- (a) Only one
(b) Only two
 (c) Only three
 (d) All four

Source: <https://www.thehindu.com/news/international/philippines-china-trade-blames-for-vessels-colliding-in-south-china-sea-as-tensions-soar/article70154426.ece>

140. Tuvalu

140. Consider the following statements:

1. Tuvalu is a land locked country.
2. Tuvalu has no mountains or rivers.
3. Tuvalu has a Parliamentary democracy under a constitutional monarchy.
4. The predominant vegetation type on the islands of Tuvalu is the cultivated coconut woodland.
5. Tuvalu recently joined International Union for Conservation of Nature (IUCN) as a State Member

Which of the statements given above are correct?

- (a) 2 and 4
 (b) 1, 3 and 5
 (c) 2, 3, 4 and 5
 (d) 1, 2, 3, 4 and 5

Answer: (c) 2, 3, 4 and 5

Explanation:

In NEWS: Tuvalu joins IUCN as newest Pacific Island State Member

Tuvalu:

- Location: **Central Pacific Ocean**, midway between Hawaii and Australia
- Form of Government: **Parliamentary democracy under a constitutional monarchy** (King Charles III is ceremonial head). **Hence statement 3 is correct.**
- Type: **Island nation** of 9 coral atolls and reef islands. **Hence statement 1 is incorrect.**
- The predominant vegetation type on the islands of Tuvalu is the **cultivated coconut woodland**, which covers 43% of the land. **Hence statement 4 is correct.**
- Tuvalu has **no mountains or rivers**, and this is a notable geographical feature that makes it unique. **Hence statement 2 is correct.**
- Sea Level Rise: Tuvalu is extremely vulnerable to climate change and rising sea levels
- There have been discussions around “digital nationhood” and even relocation of the population in the future

Tuvalu’s membership in organizations:

- Tuvalu is a United Nations Member
- It is also a Commonwealth Member
- Tuvalu signed the Convention on Biological Diversity (CBD) in 1992, and ratified it in December 2002.
- It **recently joined the International Union for Conservation of Nature (IUCN)** as a State Member (Oct 2025). **Hence statement 5 is correct.**
- Climate advocacy: Prominent voice for Small Island Developing States (SIDS)

PYQ REFERENCE: (2022)

Q. Consider the following statements:

1. Vietnam has been one of the fastest growing economies in the world in the recent years.
2. Vietnam is led by a multi-party political system.
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region.

Which of the statements given above are correct?

- (a) 2 and 4
 (b) 3 and 5
(c) 1, 3 and 4
 (d) 1 and 2

Source: <https://iucn.org/news/202510/tuvalu-joins-iucn-newest-pacific-island-state-member>

MISCELLANEOUS

141. The Kenton R. Miller Award

141. Consider the following statements with reference to the Kenton R. Miller Award:

- I. It is conferred by the United Nations Environment Programme (UNEP).
- II. The award recognizes individuals for innovation in the sustainable management of protected areas.
- III. The award is presented annually during the UN Climate Change Conference (COP).

Which of the statements given above are correct?

- (a) I and II
 (b) II only
 (c) I and III
 (d) III only

Answer: (b) II only

Explanation:

In NEWS: Kaziranga Director becomes first Indian to receive IUCN award for innovation in national parks

Kenton R. Miller Award:

- **Dr. Sonali Ghosh**, the Field Director of Kaziranga National Park and Tiger Reserve in Assam, has become **the first Indian to receive the Kenton R. Miller Award** presented by the International Union for Conservation of Nature (IUCN).
- She received the award during the IUCN’s World Conservation Congress held in Abu Dhabi on 10 October 2025.
- The Kenton R. Miller Award is a prestigious international recognition granted by the **World Commission on Protected Areas (WCPA) of the International Union for Conservation of Nature (IUCN)**. **Hence statement I is incorrect.**
- It honors individuals who have made exceptional innovations in the management and sustainability of protected areas such as national parks, wildlife reserves, and biosphere zones.
- The award is biennial (every two years), and it is typically presented during major IUCN conservation events, such as the World Conservation Congress. **Hence statement III is incorrect.**

Purpose of the Award:

This award highlights and encourages creative approaches in the conservation and sustainable use of protected areas. **Hence statement II is correct.**

It seeks to:

- Recognize pioneering leadership and visionary thinking

- Encourage innovation in:
- Protected area planning
- Governance and community engagement
- Monitoring and evaluation
- Sustainable financing
- Biodiversity protection
- Inspire others in the global conservation community to adopt and adapt innovative models

PYQ REFERENCE: (2021)

Q. Consider the following statements in respect of the Laureus World Sports Award which was instituted in the year 2000:

1. American golfer Tiger Woods was the first winner of this award.
2. The award was received mostly by 'Formula One' players so far.
3. Roger Federer received this award maximum number of times compared to others.

Which of the above statements are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/kaziranga-director-becomes-first-indian-to-receive-iucn-award-for-innovation-in-national-parks/article70154724.ece>

142. Maldives' parent-to-child triple elimination of diseases

142. Which country has been recognized by the World Health Organization (WHO) as the first in the world to achieve the triple elimination of mother-to-child transmission of HIV, syphilis, and hepatitis B?

- (a) Sri Lanka
(b) Maldives
(c) Bhutan
(d) India

Answer: (b) Maldives

Explanation:

In NEWS: What India can learn from Maldives' parent-to-child triple elimination of diseases

Lessons from Maldives:

- The World Health Organization (WHO) has validated the Maldives for eliminating mother-to-child transmission (EMTCT) of hepatitis B, adding to its earlier validation for EMTCT of HIV and syphilis in 2019.
- This makes Maldives the first country in the world to achieve triple elimination of mother-to-child transmission of HIV, syphilis, and hepatitis B. **Hence option (b) is correct.**
- The achievement is credited to strong political will, sustained investment in maternal and child health, and universal health coverage guaranteeing free antenatal care, vaccines, and diagnostics for all residents, including migrants.
- Over 95% of pregnant women in Maldives receive antenatal care and are tested for HIV, syphilis, and hepatitis B. Newborns receive timely hepatitis B birth doses and full vaccine coverage.
- As a result, no babies were born with HIV or syphilis in 2022 and 2023, and a 2023 national survey found zero hepatitis B infections among young children.
- Maldives invests over 10% of its GDP in health, and the success reflects strong partnerships across government, private sector, civil society, and international organizations like WHO.

HIV (Human Immunodeficiency Virus):

A virus that attacks the body's immune system, specifically the CD4 cells (T cells), making it harder for the body to fight infections and diseases. If untreated, HIV can lead to AIDS (Acquired Immunodeficiency Syndrome).

Syphilis:

A sexually transmitted bacterial infection caused by *Treponema pallidum*. It progresses in stages and can cause serious health problems if left untreated, including damage to the heart, brain, and other organs.

Hepatitis B:

A viral infection that attacks the liver and can cause both acute and chronic liver disease. It spreads through contact with infected bodily fluids, such as blood or sexual contact, and can lead to liver cirrhosis or cancer if untreated.

PYQ REFERENCE: (2014)

Q. Consider the following diseases

1. Diphtheria
2. Chickenpox
3. Smallpox

Which of the above diseases has/have been eradicated in India?

- (a) 1 and 2 only
(b) 3 only
(c) 1, 2 and 3
(d) None

Source: [thehindu.com/sci-tech/health/what-india-can-learn-from-maldives-mother-to-child-triple-elimination-of-diseases/article70165799.ece](https://www.thehindu.com/sci-tech/health/what-india-can-learn-from-maldives-mother-to-child-triple-elimination-of-diseases/article70165799.ece)
<https://www.who.int/news/item/13-10-2025-maldives-becomes-the-first-country-to-achieve-triple-elimination-of-mother-to-child-transmission-of-hiv-syphilis-and-hepatitis-b>

143. The Sakharov Prize

143. The Sakharov Prize for human rights is awarded by the

- (a) European Union
(b) United Nations
(c) United Nations Human Rights Council
(d) World Bank

Answer: (a) European Union

Explanation:

In NEWS: Journalists imprisoned in Belarus and Georgia win EU's top human rights award. **Hence option (a) is correct.**

- Two journalists currently imprisoned—Andrzej Poczobut from Belarus and Mzia Amaghlobeli from Georgia—were awarded the European Union's Sakharov Prize for Freedom of Thought in 2025.
- European Parliament President Roberta Metsola highlighted their courage and their role as symbols of the fight for freedom and democracy.

The Sakharov Prize:

● The Sakharov Prize is a prestigious human rights award established by the European Parliament in 1988.

● It is named after Andrei Sakharov, a Soviet physicist, dissident, and Nobel Peace Prize laureate known for his courageous fight for human rights, freedom of thought, and democracy.

The prize honors individuals, groups, or organizations that have made an outstanding contribution to:

- Defending human rights and fundamental freedoms
- Promoting freedom of thought
- Advancing democracy and the rule of law
- Combating oppression, injustice, and political persecution

Selection Process

● Candidates are nominated by the political groups within the European Parliament.

- A committee of senior Members of the European Parliament (MEPs) selects the laureate(s) from the nominees.
- The prize is awarded annually.

The award consists of:

- A formal recognition by the European Parliament
- A monetary prize (currently €50,000) to support the laureate's work
- The ceremony is traditionally held at the European Parliament in Strasbourg, France.

PYQ REFERENCE: (2025)

Q. Who amongst the following are members of the Jury to select the recipient of 'Gandhi Peace Prize'?

- The President of India
- The Prime Minister of India
- The Chief Justice of India
- The Leader of Opposition in the Lok Sabha

Select the correct answer using the code given below.

- (a) II and IV only
(b) I, II and III
(c) II, III and IV
(d) I and III only

Source: <https://www.thehindu.com/news/international/journalists-imprisoned-in-belarus-and-georgia-win-eus-top-human-rights-award/article70189554.ece>

144. Rashtriya Vigyan Puraskar 2025

144. With reference to the Rashtriya Vigyan Puraskar (RVP) 2025, consider the following statements:

- Vigyan Ratna award can be conferred posthumously.
- Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB) award recognizes scientists up to 45 years of age who have made exceptional contributions in any field of science and technology.
- Vigyan Team award can be given to any number of scientists working together upto two researchers only.
- Awards are conferred across 12 domains including Agriculture, Medicine, and Space Science.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 1, 2 and 4 only
(d) 3 and 4 only

Answer: (a) 1 and 2 only

Explanation:

In NEWS: Government of India Announces Rashtriya Vigyan Puraskar 2025 to Honour Excellence in Science, Technology, and Innovation

- Vigyan Ratna can be conferred posthumously: For the 2025 awards, Professor Jayant Vishnu Narlikar was posthumously selected for the Vigyan Ratna Puraskar. **Hence statement 1 is correct.**
- Vigyan Yuva-Shanti Swarup Bhatnagar award has an age limit of 45: This award recognizes and encourages young scientists up to the age of 45 who have made exceptional contributions in any field of science and technology. **Hence statement 2 is correct.**
- Awards are conferred across 12 domains: The awards are given across 13 domains, including Agriculture, Medicine, and Space Science. **Hence statement 3 is incorrect.**
- Vigyan Team award is for teams of three or more: The Vigyan Team award is given to a team of three or more scientists, researchers, or innovators. **Hence statement 4 is incorrect.**

PYQ REFERENCE:

Q. Who amongst the following are members of the Jury to select the recipient of 'Gandhi Peace Prize'? (2025)

- The President of India
- The Prime Minister of India
- The Chief Justice of India
- The Leader of Opposition in the Lok Sabha

Select the correct answer using the code given below.

- (a) II and IV only
(b) I, II and III
(c) II, III and IV
(d) I and III only

Source:

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2182615>

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